GOVERNMENT OF GHANA

Ministry of Local Government and Rural Development

STREET NAMING AND PROPERTY NUMBERING SYSTEM (STREET ADDRESSING SYSTEM)

Operational Guidelines
(Final Draft)

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List of Abbreviations

DA	District Assembly
DPCU	District Planning Coordinating Unit
DFR	Department of Feeder Roads
DPO	District Planning Officer
DUR	Department of Urban Roads
DWD	District Works Department
GHA	Ghana Highway Authority
GIS	Geographic Information Systems
GPS	Global Positioning System
IGF	Internally Generated Revenue
LI	Legislative Instrument
LGA	Local Government Act 1993, Act 462
LVB	Land Valuation Division of Lands Commission
KNUST	Kwame Nkrumah University of Science and Technology
M&E	Monitoring and Evaluation
MIS	Management Information System
MLGRD	Ministry of Local Government, Rural and Development
MMDAs	Metropolitan, Municipal and District Assemblies
PPD	Physical Planning Department
RCC	Regional Coordinating Council
RPCU	Regional Planning Coordinating Unit
SAT	Street Addressing Team
SPC	Statutory Planning Committee
ToT	Training of Trainers
UPN	Universal Parcel Numbering

Glossary[1]

Address directory (Index)	List of all buildings and urban fixtures surveyed during street addressing surveys including information such as: type of building, number of households per building, level of services, condition of facilities, water and electric meter numbers.
Address map	A map that specifically indicates street names and numbers, the beginning and end of each street, and the main facilities. This map is accompanied by a street index.
Arterial system	System of interconnecting lines that represent public roadways (street system).
Base map	Map used for positioning elements (locations and boundaries) on a new map.
Beginning Point	Point marking the beginning of a street. Numbering of buildings begins at this point.
By-pass	A road built around a busy urban area to avoid traffic jams
Codification	The process of identifying streets by a name or number and assigning a number to the main entrances.
Coordinates	Numbers associated with points on a map.
Compound House	A dwelling unit with a courtyard at the centre that is normally shared by multiple families.
Detached house	A house standing alone (not joined to another) typical of single family
Digitising	Process that involves encoding the geometric description of geographic objects (points, lines, polygons, etc.) in digital form (x, y coordinates).
Fieldworkers	In street addressing, the persons who undertake fieldwork of inscribing addresses on building and parcels and conducting surveys.
Geocodification	Assigning identifiers to geographic objects.
Geocoding	Positioning on a map using x, y coordinates.

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[1] Adopted from Directions in Development, *Street Addressing and Management of Cities*, World Bank 2005

Georeferenced data	Form of computerised cartography that matches data to geographical positions and locates addresses on a map using point features.
Georeferencing	Process that establishes a (mathematical) relationship between paper coordinates (example: centimetres or millimetres) on a planar map and actual (geographic) coordinates. The coordinates of a certain number of points (registration points or ticks) must be known in both systems for georeferencing.
GIS	Geographic Information System. An organised system that combines hardware, software, and the geographic data needed to enter, store, update, process, analyse, and display all sorts of georeferenced information.
GPS	"Global Positioning System": A global satellite positioning system that locates and calculates, using Lambert coordinates, datum points on a map with the help of satellites that orbit the earth. Initially designed by the United States for military purposes, it is now being used for civil applications as well, particularly for geodetics.
Layout	Local plan that sets out more detailed policies and identify specific land and its proposed use
Number assignment	Assigning a number or a classification, to something.
Numbering system	System for assigning a sequential number or classification to something.
Unique Parcel Numbering	A system of numbering used by the land sector agencies to uniquely identifies each parcel of land in Ghana.
Pilot operation	With regard to street addressing: trial run before the project begins, to test the project's organisation, the know-how of surveyors, and the method for installing signs. Space is limited to a few streets used to test the signs and codification system chosen.
Property	A parcel of land and/or building built thereon.
Publication of rights	All of the rules, techniques, and methods of implementation that ensure the collection, preservation, and issuance of legal information about property for general legal purposes.
Ring-road	A by-pass that provides a route around the CBD.

Sector Plans	Plans that deal with sectors of a settlement setting out more detailed policies and identify specific land and its proposed use.
Semi-detached house	consists of pairs of houses built side by side as units sharing a party wall and usually in such a way that each house's layout is a mirror image of its twin.
Sign installation	Installing street name plates at intersections.
Signage map	A map that shows where street sign name plates should be placed (on posts or on building façades)
Stencil	A thin sheet of cardboard, plastic, or metal that makes it easy to paint cut-out shapes.
Stencilling	In street addressing, this method is used to paint street numbers or names with a stencil.
Street Addressing	Within the context of this document: A system used to locate a building or parcel, using the street name and a main entrance number. Involves sign installation, numbering main entrance of buildings, mapping and recording these data.
Street index	A table that lists streets in alphabetical order that they can be located on a map using an alphanumeric grid.
Street sign plate	A sign that designates a street and is placed at intersections during a street addressing project.
Subdivision	Division of real property in order to put buildings on the property. Subdivision more than doubles (or more than quadruples, in the case of partition of an estate) the number of parcels created from said property.
Tax base	All of the rules and transactions that help determine the items (profits, sales volume) subject to taxation.
Terrace House	Any of a row of houses built in one block of uniform style where a row of identical or mirror-image houses share side walls.

1.0   INTRODUCTION

This manual is a guide to the naming of streets and numbering properties (Street Addressing System) in Ghana. It is designed to assist Metropolitan, Municipal and District Assemblies (MMDAs) to manage the processes for establishing a coherent Street Addressing System nationally. It seeks to assist MMDA actors to own, implement and manage the Street Addressing System by providing a common understanding of the standards and processes involved. It also outlines the processes for carrying out Street Addressing within a settlement, community, city or district, as well as details the roles and responsibilities of all the actors involved in implementation and management of the System.

1.1   The Street Addressing Problem and Practice

The mandate of MMDAs includes managing spatial development at the local level and this requires a system of efficient planning of activities in space and effective coordination of physical development. By design, Assemblies are to execute the spatial planning responsibilities partly by issuing building permits for all physical developments. The issuing of the permits is informed by approved Sector Plans or Layouts which takes into account the nature of land and how activities should function spatially for the overall welfare of the population and the environment.

In recent past, Assemblies have lagged behind in the preparation of Layouts and even where they are prepared, enforcement has been an area of grave concern. Specifically, the pace of development of properties have outstripped the rate at which Assemblies are able to put in place approved Layouts to be used as a basis for enforcement. In addition, until recently, issuing building permits was fraught with long periods of delay which resulted to physical developments proceeding without the necessary approval from the MMDAs. This problem is also partly caused by the fragmentation of land ownership and an underdeveloped land market. The former is fraught with multiple sales of same parcels to different buyers by people purporting to be land owners. Based on the constraints outlined above, when most people purchase a parcel of land, for fear that it will be sold out to others, they proceed to start development without recourse to the laid down process of acquiring the necessary development approvals.

Consequently, a considerable number of developed properties have no permits as well as addresses as most of the developments hardly go through the approval processes of the MMDAs. Moreover, most of the properties developed do not have well laid out access ways and the addressing system in use by the Town and Country Planning Department (now Physical Development Department as per LI 1961) at the district level is limited in providing the relevant addressing expertise comparable to modern trends.

The absence of street names and property numbers coupled with the mounting rate of urbanisation, presents a disturbing development trend, as critical urban services to be delivered to the population is already seriously affected. The problems in the urban areas manifest in various forms, including the following:

- Poor housing and property development due to improper use of land as effective land management principles are not followed;
- Inefficient and ineffective disposition of activities in space due to the lack of and/or non-enforcement of zoning requirements;
- Inadequate provision of services to buildings and the population;

- Traffic congestion due to poor layout of access ways; and
- Mounting difficulties associated with provision of emergency services in times of fire and robbery as well as health emergencies.

The absence of an effective street addressing system brings to the fore, the following critical questions in respect of how urban services function:

- In the absence of an effective identification system, how do city dwellers and visitors find their way in ever-expanding towns or cities such as Accra, Kumasi Sekondi/Takoradi and Tamale among others?
- How can commercial entities easily locate their clients and offer the needed services?
- Would services such as ambulances, fire or security be able to operate effectively to safeguard the welfare of the urban population?
- How can courier services be managed with ease in locations outside well known public places?
- How can water, electricity or telephone network breakdowns be tracked easily and fixed?
- How can tax collection agencies, service providers and local authorities effectively function in the execution of their mandates?

Notwithstanding the above, there are indications of makeshift solutions and urban services have and continue to function with a myriad of challenges and difficulties.

In an attempt to address the above challenges, a number of initiatives to name streets and number buildings in line with modern trends have been carried out in a piecemeal fashion in the past by a number of District Assemblies. Thus, the naming and numbering efforts have been incoherent across districts and have been fraught with a range of challenges including application of wrong naming and numbering standards. In addition, different service providers continue to use their own numbering systems to identify properties to facilitate their operations, thus leading to a multiplicity of numbering systems. This has arisen from the absence of a national framework to guide MMDAs and other relevant actors on the naming of streets and numbering of properties.

To address these challenges, the Ministry of Local Government and Rural Development (MLGRD) has been charged to issue a framework to guide MMDAs to put in place a nationally coherent addressing system. This will not only facilitate implementation of the addressing system but will ultimately contribute to national development efforts since it will facilitate better service delivery to the population. This operational manual provides the framework by which MMDAs and other relevant agencies can apply a systematic and harmonised process to name streets and number properties. The addressing system when established in a district will serve as the platform on which all other users will obtain their location information requirements.

1.2   The Legal Basis for the Street Addressing

The Local Government Act 1993, Act 462 (LGA) which established the MMDAs also designates them as Planning and Rating Authorities. As Planning Authorities, they have responsibility for spatial planning to primarily address the issue of orderly human settlement development. As part of this mandate, Section 49 of the LGA requires that all physical

developments should have written permits from the Assemblies with the Statutory Planning Committees as the arm of the MMDAs charged specifically with this responsibility.

Also, LI 1589 {Local Government (Urban, Zonal and Town Councils and Unit Committees) (Establishment) Instrument, 1994}, has the fourth function of the Second Schedule stipulating that sub-districts are "to recommend to the District Assembly the naming of all roads in its area of authority and cause all buildings in the streets to be numbered".

In line with the Planning mandate of MMDAs therefore, streets are to be named and properties numbered to serve as a basis for issuing addresses for easy identification of places, delivery of service and the overall management of urban settlements and communities.

1.3   What is Street Addressing

The addressing system involves naming streets and then numbering the properties along them. Street addressing is an exercise which makes it possible to identify the location of a parcel or dwelling on the ground. That is, to "assign an address" using a system of maps and signs that gives numbers or names to streets and numbers to buildings/parcels of land.

Street Addressing as a system goes beyond the mere naming of streets and numbering of properties. It includes developing digitised maps for use in the management of settlements and urban communities. The maps with the information thereon can be developed into GIS [geographical information system] as a database.

Thus, development of a street addressing system should not be viewed as a one-off activity, but as a process to be expanded and refined over time to address a range of needs. It therefore has a number of arms and processes which are elaborated in subsequent sections of this document.

1.4   Objectives of the Street Addressing System

The objectives of the Street Addressing System are to:

i.   Ensure quicker response of emergency service providers by enabling easy identification of locations of need;
ii.   Improve general delivery of services using it as a tool specifically to provide more efficient delivery of municipal services in urban areas;
iii. Provide location addresses to contribute to easy identification of places; improve tax/revenue collection by revenue agencies and MMDAs as well as promote operations of businesses generally; and
iv.   Provide an addressing platform to facilitate other government initiatives such as the National Identification Exercise and National Population and Housing Census.

1.5   Why is the Street Addressing System Necessary

The Addressing System has a range of benefits[2] which have been broadly categorised into key user areas as follows:

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[2] Adopted from Directions in Development, *Street Addressing and Management of Cities*, World Bank 2005

Metropolitan, Municipal and District Assemblies (MMDAs): It facilitates increase in internally generated revenue (IGF) and the management of the urban settings and services. It is therefore a tool:

- for planning and managing municipal services by making it possible for decentralised agencies to identify and monitor public assets in respect of their length, number, and condition to facilitate urban planning and programming of investments and management. This is made possible with the creation of a database for facilities management and for investment programming; and
- to improve local tax collection where information gathered by the initiative makes it possible to compile a register of taxable individuals, businesses and properties with addresses thereby making it easy to locate them. This provides a realistic basis for determination of the tax base and has the potential to improve revenue when the right systems are established.

Central Revenue Agencies: the street addressing system can be used to compile business and property registers with specific locations which are vital for the operations of agencies such as Internal Revenue Service and the VAT Service.

For the **general public**, it makes the urban setting more "user-friendly" by:

- improving the system of street coordinates which makes it easier for people to find their way around in cities or towns,
- assisting with the delivery of health, fire, and security services in times of emergencies, and
- facilitating easy location of critical facilities in town and cities.

The **private sector** is enabled by the system to provide targeted services to clients as well as tracking their locations for the relevant follow-ups and maintenance of infrastructure and business transactions.

2.0 PRINCIPLES AND STANDARDS OF THE STREET NAMING AND PROPERTY ADDRESSING SYSTEM

This section outlines the standards which govern street naming and numbering of properties. The standards set out the requirements to be complied with in implementing the two key dimensions of the addressing system; namely, the naming of streets and the numbering of properties. For the purpose of this document, Street has been used as a working definition for all access way types, excluding railways.

2.1 Street Naming Standards

The rationale behind the standards is to provide the guide to interpreting and implementing the Addressing System to ensure conformity and consistency to the requirements stipulated for the exercise. The following are to be noted as critical ingredients to the standards:

i.   It is the responsibility of all MMDAs to ensure that all existing and proposed streets within their jurisdiction are named and appropriate signage erected in accordance with agreed standards. All streets are to be named irrespective of whether they have dwelling units or business related properties/buildings or not.

ii. The naming of streets shall be the responsibility of the Physical Planning Departments (PPDs) of the MMDAs. The PPDs, thus, shall lead the process of interpreting the policy and implementing the System. The PPD shall lead the naming of streets in consultation with the traditional authorities, and with approval by the Statutory Planning Committee (SPC) of the MMDA before implementation.

iii. During the initial phase of implementing the System, the respective MMDAs shall constitute a Street Addressing Team (SAT) out of the expanded membership of the District Planning Coordinating Unit which will be responsible for the day-to-day coordination of implementation of the Street Addressing System. The PPD shall work with the Street Addressing Team so constituted.

iv. Street names and property addresses shall be ultimately geo-referenced to allow navigation.

2.1.1 Guide for Assigning Street Names

The selection of Street Names shall respond to the following standards:

i.   **Street names shall not be duplicated** in an MMDA or in any geographical region defined for the purpose of this exercise even if the street types are different.

ii. Street names along continuous collector and arterial streets with elbows shall not change. As such, name changes cannot occur at 'T' intersections. A Street which runs through more than one MMDA may therefore have one name along its entire length and there shall be no street name change even at 'T' intersections. In this regard, start and end points of access ways shall be determined as a vital element of the Street Naming process. An illustration of Start (Beginning) and End points of access ways is provided in Figure 1.

iii. Names with similar pronunciations but different spelling shall be avoided within an MMDA. An example is Agyepong Street and Adjepong Street.

iv.   Street names applied should effectively communicate to the public especially children. The names should be appropriate, easy to pronounce and not offensive.

Figure 1: Definition of Access Way Start (Beginning) and End Points

v.   The street names should promote community image and shall be drawn from local history; culture and traditions (including names of distinguished chiefs, queens and elders); fauna and flora; and landmarks.

vi.   The Names with the same theme, such as flowers should as much as possible be applied in naming streets in an entire sector or area as a means of providing general identification distinctions and easy public appreciation of the naming system as shown in Figure 2.

vii.   Existing historical road names should be retained, where they comply with the requirements.

viii.   The range of streets in a community or city should be categorised into first, second and third order levels in terms of use and importance; and used as a guide for the naming exercise. With such categorisation, the most important streets get to be given the most important names and followed through with the second order of names for the next level of important streets in that order.

Figure 2: Guide to Determining Themes for Addressing Streets in Sectors

ix. The use of special characters in road names such as hyphens, apostrophes or dashes should be avoided.

x. The use of names of living persons, including politicians and chiefs, should be avoided.

xi. Street names shall not exceed a maximum of twenty-two (22) characters made up of eighteen (18) characters for the name plus prefixes (including spaces) and four (4) for suffixes.

xii. Directional prefixes (north, south, east, and west) are permitted only when used together with a street name (i.e. South La Beach Road). Directional prefixes are permitted to identify extensions of existing streets or to distinguish parallel streets within the same vicinity. **Directional suffixes shall not be used, such as La Beach Drive South**. If a directional word is not intended to provide direction, it shall be connected to the remaining portion of the street name without a space, for example Northridge Link.

xiii. Only recognised street types as listed in section 2.1.2, Access Way Types and Suffixes, shall be used.

xiv. Street types shall be consistent with their definitions as listed in section 2.1.2, Access Way Types and Suffixes.

xv.   To facilitate easy mapping of street names, short road lengths must have short street names.

xvi.   In newly developing areas, in the interest of public safety, if any graded or paved access is provided, a temporary street sign identifying the street(s) shall be erected by the developer.

xvii. Street names proposed on Layouts shall not be approved until names and placements have been reviewed for clarity and correct spelling. A street name shall not be considered final until it is mapped on the Layout and gazetted.

2.1.2 Access Way Types and Suffixes

The access way classifications and suffixes are based on standards used by the Town and Country Planning Department, Ghana Highway Authority (GHA), Department of Urban Roads (DUR) and Department of Feeder Roads (DFR). The definitions applied outlined subsequently with the details in Annex 1.

2.1.2.1 Highway (Trunk Road) Types

i.   Highways are trunk roads which are national in nature. These are represented with the suffix **N** in terms of numbering of these roads**.**

ii.   Inter-regional roads are represented by the suffix **IR** and refer to trunk roads that provide a link between two adjoining regions.

iii.   Regional roads have **R** as their suffix and are trunk roads within a region with links to various districts.

A map depicting the range of trunk roads and the codes assigned by the Ghana Highway Authority is provided in Annex 2.

2.1.2.2 Urban Roads

The classification of the range of urban roads is generally five in number. These are:

i.   Major arterials
ii.   Minor arterials
iii.   Distributors and collectors
iv.   Local roads
v.   Special facility roads

The ordering of the above range of urban roads is usually carried out by the Urban Roads Department of the Metropolitan and Municipal Assemblies based on standards provided from the national headquarters of the Department of Urban Roads (DUR).

2.1.2.3 Feeder Roads

The Department of Feeder Roads utilises three broad road classifications. These are:

i.   Access Feeder Roads, which usually have dead ends that lead into a community and not further. Identified by suffix **A**;
ii.   Connector Feeder Roads provide a link between two truck roads and are identified by the suffix **C**; and

iii.   Inter-district Feeder Roads provide a link between two districts with the suffix **I** as the identification**.**

2.1.2.4 Access Way Types Definitions

For the purposes of the street naming exercise, the following additional access way types (which relate more to the urban setting) shall be used to designate streets:

- Avenue (Ave): A longer access way aligned in a North-South direction e.g. Nkrumah Ave in Accra

- Street (St): A longer access way aligned in a East-West direction. e.g. High Street in Accra.

- Lane (Ln): A reduced right-of-way branching from a higher order street in a North-South direction.

- Link (Lk) or By-pass (Bp): A shorter access way aligned in a East-West direction.

- Boulevard (Blvd): An access way with a divided pavement in the middle or with a special type of landscaping with trees usually dividing the lanes.

- Circle (Cir): An access way containing a closed loop beginning and ending with the same street, or where looped street closes onto itself. e.g. Kwame Nkrumah Circle in Accra.

- Loop (Lp): Similar to a Circle, but with more meandering layout.

- Court (Ct): A short street with an outlet at one end only (dead-end street), constructed with turnaround at the other end. Also referred to as a Close (Cl) or Cul-de-Sac.

- Road (Rd): A diagonal or curvilinear access that may lead into a township or community

- Drive (Drv): A curvilinear access way.

- Parkway (Pkwy): access way with linear park maintained alongside.

- Alley (Aly) – A narrow lane between or behind a row of buildings. It is a public right of way, but distinct from a public street. Alleys are narrow, without sidewalks, curb & gutter.

- Crescent (Cr) – a crescent shaped which terminates at a point and continues through to other right of ways.

- Path (Pth): A pathway (not motorable) that is aligned in North-South direction.

- Walk (Wlk): A walkway (not motorable) that is aligned in East-West direction.

The street system is illustrated in Figure 3.

Figure 3:   Street System

2.1.3   Reviewing Existing Street Names

Where there are existing street names, the following shall be applied:

i.   The PPD shall conduct a review of all existing street names for consistency with the standards for street naming policy.

ii.   Changes to existing street names shall be deemed to be necessary only in cases of street name duplication or if the street name is such that pronunciation is difficult and can cause confusion or a mix up in case of an emergency response to a location.

iii. Where name change is warranted following the review of existing streets names, the PPDs shall, in consultation with the relevant traditional authorities and community leadership (or relevant major stakeholders), select a street name in accordance with the provisions of the policy and the processes outlined in Sections 2.1.9 and 2.1.11 for street name change.

2.1.4 Street Names for New Development

i. In the case of existing streets with no names, the respective PPDs shall, in consultation with the relevant traditional authorities and community leadership (or relevant major stakeholders), select a street name in accordance with the requirements set out in sections 2.1.1 and 2.1.2 of this document.

ii. Naming of access ways proposed for new developments shall be done at the time of developing Sector Layouts (subdivision maps) for the designated areas.

iii. In the case of private gated developments, the developer shall submit the names of the access ways as part of the plan and other documentation forwarded to the District Assembly for approval. The names shall be reviewed first by the PPD to avoid duplication and to ensure conformity to the required standards before submission to the Assembly's Statutory Planning Committee (SPC) for approval.

iv. Street names shall be deemed to be legally binding upon the approval of an Assembly's SPC and gazetting of the Layouts.

2.1.5 Naming of Access Ways in Developed or Developing Suburbs

i. Naming of new roads for already developed or developing suburbs shall be done by the PPD of the Assembly (in consultation with the relevant sub-district council, traditional authority and community leadership) and subsequently approved by the SPC.

ii. The naming of the access ways will first be executed as deskwork by digitising the names on maps before field validation and inscription.

iii. Subsequent to the completion of this exercise the updated digitised maps with street names will be presented to the SPC for approval.

2.1.6 Street Naming in Metropolitan Areas with Multiple Districts

i. There are a number of metropolitan areas which are made up of more than one district. An example is the Greater Accra Metropolitan Area, which has about eight contiguous districts, shall be considered as a planning region. The street naming and addressing exercise shall be tackled as a joint effort by the MMDAs concerned.

ii. The consideration of such areas as a planning region for the purpose of the street naming exercise shall be facilitated by the respective Regional Planning Coordinating Units (RPCUs) under the auspices of the Regional Coordinating Councils (RCCs).

iii. The RCCs shall cause to be formed a Team made up of the MMDA officers and assist them to manage the process of naming the streets and numbering of properties to ensure synergy of the system in the cities.

2.1.7 Street Naming of Slums and Areas of Unplanned Development
Street naming of slum areas and areas of unplanned development shall be based on a range of options due to their peculiar nature.

i. Where there are existing defined access ways (streets, walkways, lanes, etc.), they shall be mapped and named accordingly as set out in sections 2.1.1 and 2.1.2.

ii. Where there are no existing definable access ways, the PPD shall (in collaboration with the leadership of the community, including the Assembly Member and other opinion leaders) undertake an exercise to identify possible access ways. This will involve identification and mapping of the access routes and naming such walkways, lanes and paths in line with the requirements of sections 2.1.1 and 2.1.2.

2.1.8 Street Name Change
i. Changes to existing street names shall not be permitted unless there is cause to show that street name duplication has occurred or the street name is such that pronunciation is difficult and can cause confusion or a mix up in the case of an emergency response to a location.

ii. All street name changes shall be subject to approval by the Statutory Planning Committee of the Assemblies.

iii. Proposals for name change of streets may be initiated at two levels as follows:

1. Street Name Change by District Assembly
2. Street Name Change by the Community

2.1.8.1 Street Name Change by District Assembly
i. The first level of name change is vested in the hands of the District Assembly as the Planning Authority. The District Assembly (through its PPD) shall initiate the process for a name change when a conflict in the name for a particular street is noticed or brought to its attention.

ii. Before the PPD undertakes the change, the following steps shall be complied with:

- Assess and determine the veracity of the complaint concerning the conflict;
- Inform the affected community(ies) of the conflict and why the need for the change;
- Determine the new name options and liaise with the relevant sub-district council, community leadership and traditional authority for their endorsement;
- Submit the new name and the rationale to the Statutory Planning Committee for approval;
- Upon approval, the community shall be informed by the PPD of the new name and the effective date for the new name and when the signs will be changed. When the name change is approved, it shall be advertised by the District Assembly.

2.1.8.2 Street Name Change Request by a Community
Street Names provided at the community level shall be legally binding after the approval by the SPC of the Assembly and subsequent gazetting. Requests for street name changes shall be forwarded in writing to the Assembly, for the consideration by the Statutory Planning

Committee (SPC). Therefore communities desiring a change in name of an existing access way will be required to pursue the following steps:

a. Submit an application for the change to the District Assembly through the sub-district office for their area. The application for the name change must clearly outline the concerns and basis warranting the change;
b. Where a new name is proposed by the community, the name will be reviewed by the Physical Planning Department for compliance with the street naming standards and subsequently approved by the Statutory Planning Committee before the change process could be initiated;
c. Where there is no new name proposed, the Physical Planning Department will follow the process for selection of a new name as outlined in section 2.1.1; and
d. Upon acceptance or otherwise by the SPC, the applicant will be informed in addition to the relevant public and private organisations as well as individuals affected by the new name and the effective date for the new name and when the signs will be changed. The name change when approved shall be advertised by the District Assembly.

Residents of a locality, community or settlement are **not** mandated to change street names through any local actions without the prior approval by the Planning Authority.

2.1.9 Effective Date of Change
Streets for which new names are approved will have new street signs within 60 days and the effective date for the name change will be sixty (60) days from the date of change approval.

2.2 Street Name Signage

All access ways shall be identified by the name assigned and signage erected in line with the provisions of this document.

2.2.1 Description of Street Name Signs
Street name signs shall be installed at all intersections; and shall comply with design, installation and maintenance requirements. The signage shall conform to the following specifications:

a. **Street Name Sign Colour and Illumination**
   i. Two colour schemes shall be permitted for street name signage. The lettering of the street name shall either be in black with a white background or white lettering with blue background.
   ii. The font shall be "Transport Heavy" font and the material shall be reflective scotchlite (high-intensity).

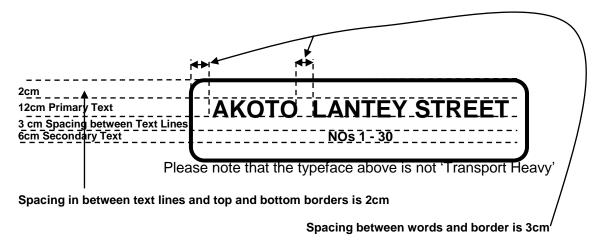b. **Height of Street Name Sign Post and Material**
   a. The total length of street sign post shall be 3m with not less than 2.3m above the ground and 0.7m buried in concrete in the ground.
   b. Placement of the street name plates shall be from 2m above the section buried underground.
   c. The material shall be 7.62cm galvanised pipes and the colour shall be the natural colour from galvanising.

d. The pole shall be filled with concrete before they are erected to reduce pilfering.

c. Street Name Plate Dimensions and Lettering

i. Street name plate shall not exceed 1m in length by 0.25m with rounded corners. Two lettering options shall be allowed namely all inscriptions in capital letters or in Sentences case. Text options for Street Name plus Address Range shall be embossed and presented based on the dimensions below:

2cm
12cm Primary Text
3 cm Spacing between Text Lines
6cm Secondary Text

AKOTO LANTEY STREET
NOs 1 - 30

Please note that the typeface above is not 'Transport Heavy'

Spacing in between text lines and top and bottom borders is 2cm

Spacing between words and border is 3cm

ii. Where there is no Address Range as Secondary Text, the spacing in between the Text Line and top and bottom borders shall be 6cm.

iii. The names shall be on chromate plated pressed aluminium sheets or any other material subsequently declared.

iv. The street number plates shall be fixed on rectangular galvanised plate (1m by .25m) welded to the sign post.

d. Street Name Sign Placement

Principles for placement of street signs cannot be detailed exactly as each situation must be assessed in its own context to give the most suitable results. The list of standards below for the positioning of signs is to be taken as a general guide and may not be an exhaustive list. This guide is to be used in conjunction with street name sign content and specification.

i. Signs shall be placed with the DIRECTION OF THE INSCRIPTION parallel to the streets they name, beyond pedestrian walkways at the intersections within 12 cm from the edge of the walkway.
ii. Street name signs are to be bi-directional at intersections and shall not impede pedestrians and other users of the access ways.
iii. Placement of street name signs shall not be combined with outdoor advertising in the first five years of implementing the system.
iv. Street name signs shall not be obscured by outdoor advertising, plants or any other object at access way intersections.

v. Assemblies shall ensure reorganisation of intersections to enhance visibility of street name signs.
vi. At intersections, all streets are to have signs at the entrances.
vii. At 'T' intersections, the main street name plate is to be placed directly opposite the traffic approaching from the side road.
viii. Placement of signs on larger carriageways shall be five metres above the paved road.

2.3 Numerical Addressing Standards

i. The Metropolitan, Municipal and District Assemblies shall establish and assign property address numbers in accordance with the guidelines set forth herein.

ii. All properties used for residential, commercial, civic, institutional or governmental purposes as well as vacant parcels in developed areas shall be assigned numbers as addresses to identify them.

iii. The properties shall be addressed off the transportation surface that fronts them.

2.3.1 Property Numbering Flow

The following paragraphs provide descriptions of the generally acceptable numbering flow standards. The property numbering flow along an access way or on a compound depends on its specific pattern. Examples of some distinct numbering flows have been provided as a guide.

a. Determining the Beginning Point for Property
i. The beginning points for numbering of properties shall be based on work done to define the Start and End Points of streets.
ii. Where there is a northward orientation in the growth of a community, the norm shall be to follow a south – north direction of numbering and a southward growth shall follow a north-south orientation in the numbering.
iii. Dead-end roads shall have beginning points at the point of departure from the main road, irrespective of the direction.
iv. Numbers assigned shall be determined according to the entry way to the property. Where the properties have one or more entryways/driveways and roads on both sides, the most used shall determine the address number to be assigned. However, there shall also be another number for the other entrance but that shall be silent until entryway changes permanently.

Figure 4 depicts a simple numbering flow in west – east and south - north directions.
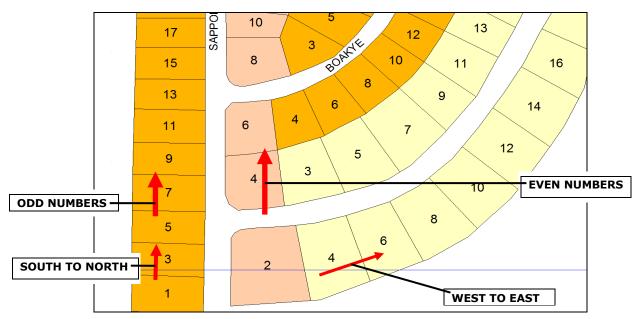
Figure 4:   Numbering Flow after the Start and End Points of Streets are Determined and Even and Odd Numbering Rule

      b. **Odd/Even Number Location:** Assign even numbers on the right side, from the point of beginning, and odd numbers on the left side, from the point of beginning. Figure 4 also illustrates the numbering flow for Even and Odd numbers.

      c. **Fractional, Alphanumeric, Hyphenated Addresses:** Addresses shall not have any fractions (e.g. 46 ½ Tadi St) or hyphenated numbers (41-656 Bell St).

      d. **Square and court**: The property numbering in this case will be clockwise with reference to the north orientation and anticlockwise for south orientation. Figure 5 illustrate numbering of a court with a south orientation
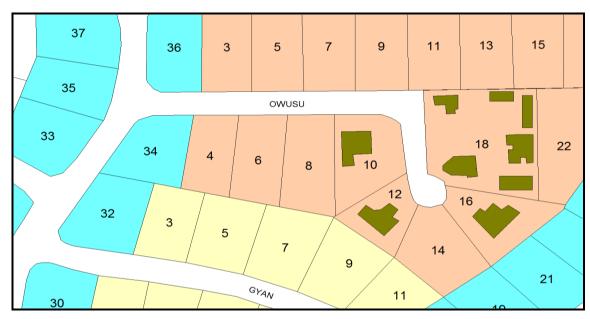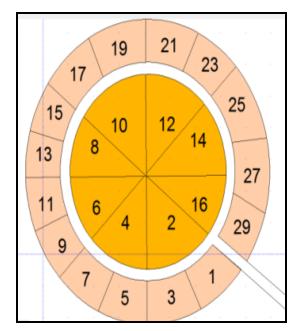

Figure 5:   Numbering Flow of a Court with a South Orientation

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e. **Circular pattern**: For an access way with a circular pattern, the only entrance to the main road is both starting and ending points. The properties shall be numbered in a clockwise direction, taking into account the odd and even numbering rule. If an access way with a circular pattern has buildings at its centre, odd numbers will be given to the parcels at outer ring and even numbers to those at the centre. See Figure 6.
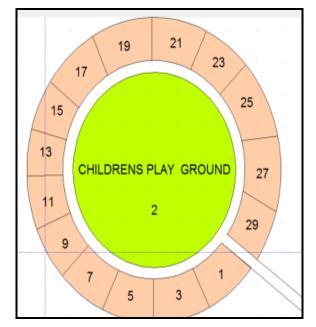

Figure 6:   Numbering Flow for Circular Street Patterns

f. **Corner plots:** assigning numbers to corner parcel shall take into account the entryway, driveway or front door, whichever falls on the access way. Thus, for corner parcels the number assigned will depend on the main entrance to the property.

Where there is an undeveloped parcel at an intersection, the SAT shall determine the number based on an assumed entryway.

g. **Numbering of underdeveloped plots in a developed area:** Where there are uncompleted developments in-between properties, the number for the parcels shall be determined and an appropriate address number assigned. The number assigned will be allocated by the MMDA when application is presented to develop parcel. This will follow the numbering flow within an undeveloped area.

h. **Numbering of Properties with Infilling or subdivision**: Numbering in this category will usually happen after the numbering has been done for the main property. Depending on the nature of the infilling or sub-division, a number of options may apply. If the new structure:

   i.   is within the same compound and uses the same entrance as the original property, the number allocated to the original property shall be maintained.

ii.   has a walled compound different from the original property, then its own entrance will be allocated a new number. In such cases, the properties so affected will receive an alphabetical extension of A, B, etc. to the original number as shown in Figure 7.
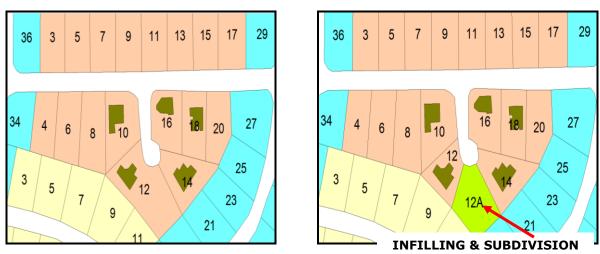

INFILLING & SUBDIVISION

Figure 7:   **Numbering for Infilling and Sub-division**

i.   **Compounds:** Numbering on a compound shall be in two forms. The first will be when buildings are all located on the same compound or parcel but with different owners and possibly titles. In such cases, the numbering adopted in Figure 8 will apply. Buildings on such compounds follow the general numbering principles but without fractions or hyphenated address numbers.

The second scenario is where there is one compound with either a number of rooms or houses owned by an individual with one main entrance to the compound. Such compound houses shall be given one address without any extensions.
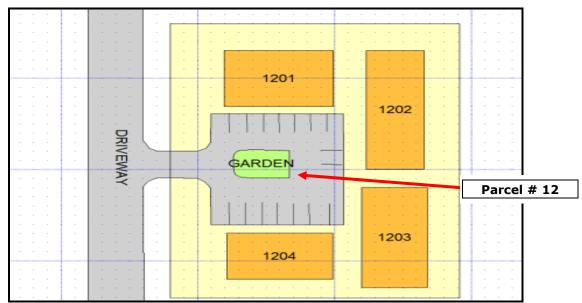

Figure 8:   **Numbering in a Compound**

j. Apartments: Apartments and multi-tenant structures should first have the entire building assigned an address number and the floors and apartments assigned apartment numbers as secondary location indicators (e.g. 14 Tadi St, Apartment 11 and 14 Tadi St, Apartment 22). These addresses refer to the first apartment on the first floor and the second apartment on the second floor respectively. The illustrations are in figures 9 and 10.

Figure 9: Numbering of Apartment Floors

Figure 10: Numbering of Apartments on the First Floors

Where there are a number of apartments on the same parcel of land, each apartment shall have an alphabetical extension starting from the letter 'A' as in Figure 11.

Figure 11: Numbering of a Number of Apartments on a Parcel

This is to be followed by assigning numbers to the floors and the apartments on the floors. For example, the first apartment on the first floor of the first block of parcel number 14 on Tadi Street shall have the address - 14 Tadi Street, Apartment A11. The numbering for the whole floor shall be as in Figure 12.

Figure 12: Numbering within an Apartment for a Number Apartments on a Parcel

2.3.2 Hotel Addressing

The parcel of land which has been developed will be assigned an address number whilst the room numbers will be as applied by the hotel management.

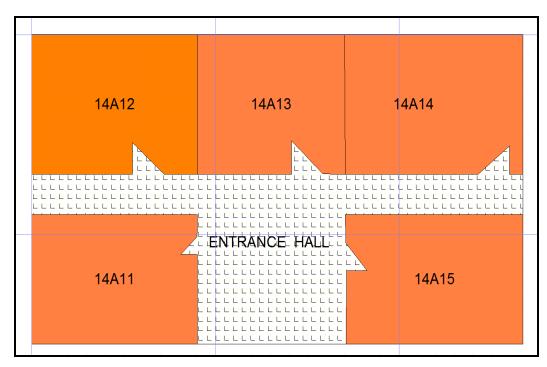### 2.3.3 Addressing of Commercial and Office Suites

i.   Suite addressing shall take into consideration the potential for dividing the space in the future. Suites shall be numbered sequentially in the order they are accessed from the main entrance, starting on the left when facing the front of the building and continuing in a clockwise direction. Figures 13 and 14 provide how suites are to be numbered for a commercial and an office structure.

ii.   Each tenant space shall be assigned a suite number in the sequence designated by the Addressing Team responsive to the area being addressed.

iii. Single storey buildings shall have addresses within the 100 series. Multiple storey buildings shall be assigned addresses by floor served in 100 series in line with the floors (such as 100, 200, 300, 400, etc). In a multi-storey building, the floor with the main walking entrance shall be identified as the building's ground floor. Every suite shall have a multi-digit room number posted at each entrance door.
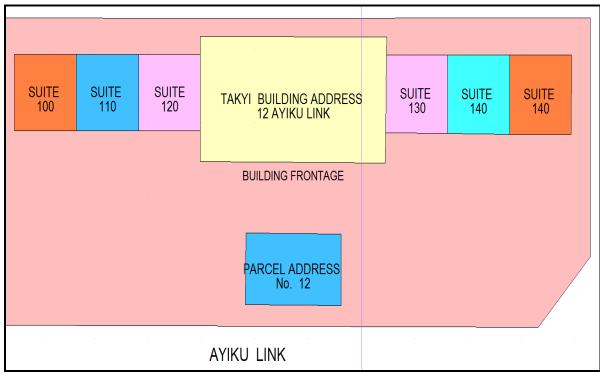

Figure 13:   Suite Numbering for Shopping Centre

iv.   Suite numbers shall follow a consistent pattern throughout the entire building and shall be in the series of 10 on the same floor as illustrated in Figures 13 and 14. When additional tenant spaces are created in an existing commercial building, the new suite numbers shall conform to the sequence of the existing suite numbers.
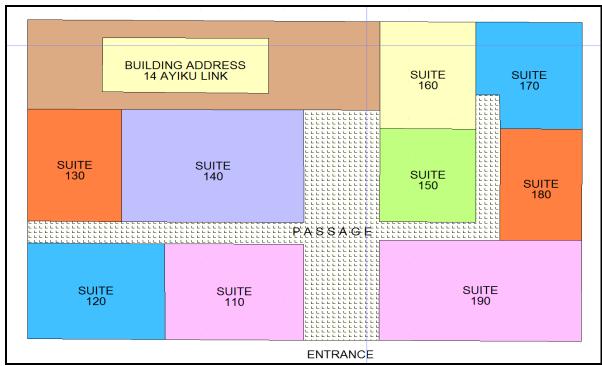
Figure 14: **Numbering Flow for Office Suite**

    v.   All other unoccupied rooms such as Janitor's closet, housekeeping, electrical closet, etc., shall be identified with a simple description.

   vi.   Addressing of such buildings shall be consistent with the identification and signage requirements.

2.3.4 Property Numbering of Slums and Areas of Unplanned Development

Property numbering of slum areas will be based on a range of options due to their peculiar nature. Numbering in areas where there are access ways will follow the standards and procedures outlined in sections 2.3.1 and 2.3.2. In situations where there are no walls for the properties and a number of buildings are on the same compound or parcel of land, the following steps shall be followed:

- The SAT will identify the owners of the building or properties on the parcel of land; and
- Where it is established that there are different owners who are not of the same household, then different numbers shall be assigned to the properties or houses following the flow in Figure 8.

In situations where there are a few access ways and unplanned developments, the following approach shall be used in the numbering of properties:

- The first source of the numbering will be the access way names as described in sections 2.1.1 and 2.1.2
- Where there are named streets, walkways, lanes etc., then the numbering of the properties will be done with these as the reference points;

- Where there are no defined access ways, the clustering approach will be applied, where various clusters will be determined and the numbering carried out depending on the building patterns. The standards outlined in section 2.3.1 shall inform the numbering flow.

2.3.5 Property Numbering in Settlements without Streets
The following process shall be applied in the numbering of properties in settlements without streets, which is typical of most rural settlements close to a number of urban areas in Ghana. Most of such rural areas are ultimately absorbed into urban areas. This process should be combined with section 2.1.7 (ii):

- Determine the direction of growth of the settlement;
- Determine the central point of the community
- Using available maps divide the settlement into manageable and distinct blocks as **sectors;**
- Number and name the sectors on the Map. If there are existing names for the sectors they may be adopted;
- Sign post the sectors;
- Determine key walkways with the help of community leaders and name them; and
- Start numbering along the walkways from the west to east or from the south to the north depending on the direction of growth of the settlement.

2.3.6 Addressing New Construction and Development
Building Permit Requirements: Prior to starting development on a parcel of land, the prospective property owner is required to submit an application for a building permit. At the point of applying for the permit, the Assembly as per its mandate will be required to assign an address to the new building(s) as part of granting the building permit.

Sector Layout Requirements: Layouts for new developments shall only be approved and recorded when street names and address numbers have been assigned.

2.3.7 Changing Address Numbers
  i. Responsibility for change in address number(s) irrespective of the reason shall lie with the MMDAs.
 ii. The MMDAs shall notify the property owner of the change in address.
iii. The owner of the property has the responsibility to write to the respective agencies providing services to the property of the change in address number within 30 days of the receipt of the notice.

2.3.8 Responsibility for Installation and Maintenance of Address Numbers
  i. Responsibility for the installation of address numbers for the first time shall be that of MMDAs. However, the cost of the address plate shall be borne by the property owner and redeemed by MMDAs surcharging the cost as part of the property rate or business operating license.

 ii. The maintenance of the address plates shall be the responsibility of the property owner, caretaker or tenant at all times, be it residential, commercial or industrial property.

iii.   Any attempt to obstruct or cover an address number with the intension of concealing it shall be considered as unlawful.

iv.   To ensure that the public complies with the addressing requirements and empower MMDAs to take legal action against defaulter, it will be required that a bye-law is passed by the Assembly to give it legal backing.

2.3.9   Size and Location of Address Numbers
The size and location of the address numbers shall take into account the following:

a.   Residential, Industrial and Commercial Centres

Number Plate Size
The dimension of Address Number Plates shall be 19cm by 11 cm and the dimension of the numbers inscribed shall be 7.5cm.   The number shall be inscribed or embossed on the plate with details as illustrated Figure 15.
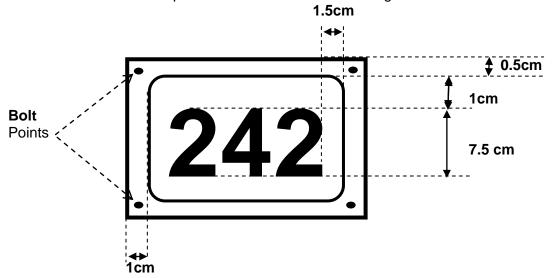

Figure 15:   Details of Inscriptions on Property Number Plates

Colour and Material
The Plates shall have a blue background with white lettering which should be reflective. The material on which the number will be inscribed or embossed shall be a chromate plated aluminium sheet.

Placement Height
The plates shall be placed at the front entrance of every property 10cm to the right and 153cm above the building floor.

Following the initial installation of address plates, it will be the duty of every property owner, trustee, lessee, agent and occupant of a building or property to ensure that the assigned address number is displayed at all times. The address plates to be placed at the front entrance of a building or property has to be visible from the sidewalk or road whether it is day or night.

Where the address is not legible from the access ways and there is a driveway or lane, an additional address number shall be placed at the intersection of the driveway or lane.

b. Apartment Buildings and High-rises
All apartment buildings and high-rises shall display the main address number above or on the side of the primary entrance to the building. The size, colour placement shall be in line with the requirements as outlined in 'a' above. Apartment numbers for individual units within the complex shall be displayed above or on the right side of the entrance of each unit.

2.3.10 Temporary Addresses
i. Structures on proposed access ways, drainage ways and other public rights of way shall be assigned temporary addresses until MMDAs have determined their status.

ii. Structures within this category shall be determined using outputs of the Unique Parcel Numbering exercise of the Town and Country Planning Department. A sample of the Unique Parcel Numbering is as shown in Figure 16:
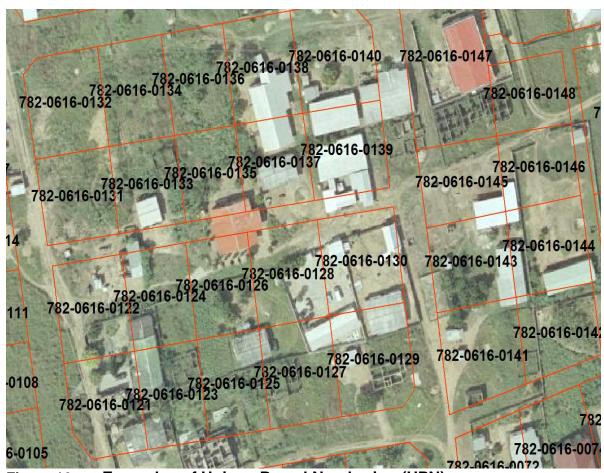

Figure 16:   Examples of Unique Parcel Numbering (UPN)

iii. Structures so designated in this category shall have numerical addresses based on the numbering standards of this system but shall have the letter '**T'** in addition to the

number assigned. An example of such an address shall be 12T Ayiku Link. Thus, in such cases the numbers may be repeated but the letter will be used to distinguish them.

2.3.11 Numerical Address Exceptions
Temporary structures like kiosk, containers shops and wooden structures shall be exempt from the numerical addressing. Thus, MMDAs are to view the implementation of this Street Addressing System as part of the overall management of the cities and therefore the location of the numerous temporally structures in street corners will have to be properly managed to ensure that they are easily located and needed rates and fees charged.

2.4 Responsibility for Street Name and Property Numbering Signage
Responsibility for fabricating and installing street name signs at the intersections of all existing and new streets as well as number plates for properties in a district's jurisdiction is vested in the District Assembly.

SIGNAGE OF HIGHWAYS (TRUNK ROADS) REMAINS THE PRESERVE OF THE GHANA HIGHWAY AUTHORITY.

2.5 Violation of Street Naming and Property Addressing Standards
   i. The MLGRD shall have overall oversight responsibility regarding the implementation of Street Names and Property Numbering.
   ii. Whenever the Ministry has reason to believe that there has been a violation of the policy in an MMDA jurisdiction, the Ministry shall notify the relevant MMDA concerned in writing.
   iii. Upon receipt of the notification, it shall be the responsibility of the MMDA to ensure that the violation is addressed within 60 days.
   iv. Where specific individuals or organisations are involved, the MMDA shall notify such persons or parties to rectify the violation and where it requires a name change, the MMDA shall go through the process outlined in this document to address the situation.

3.0   STREET ADDRESSING SYSTEM – IMPLEMENTATION PROCESS

This section focuses on the process for the implementation of the Street Addressing System. The process has three main stages, namely Preparatory, Implementation and Maintenance Phases. The phases have been developed into a work plan to guide implementers as illustrated in Annex 3.

3.1   Preparatory Phase

The preparatory phase defines the specific approaches to implementing the Street Addressing System at the district level, as well as operationalise the district-level Street Addressing Team (SAT) to be in charge of coordination of implementation. The preparatory phase focuses mainly on:

- Operationalisation of the SAT to coordinate implementation;
- District level Stakeholder Consultative Meetings to present an overview of the system.
- Gathering of available documents for the implementation of the system (including base maps); see Annex 4 for a format to be used to determine the availability of maps;
- Engagement of a consultant to facilitate the implementation process. A specimen Terms of Reference for the engagement of the consultant is provided in Annex 5;
- A study to define district specific implementation approach. The study should include:
    - How existing coding for identifying streets by Ghana Highway Authority (GHA), Department of Urban Roads (DUR) and Department of Feeder Roads (DFR) can be applied by the district for the exercise,
    - The range of property numbering dimensions to be considered; the approaches[3] to be adopted for implementing the initiative; recommendations for operationalising the system; a budget and a work programme. Refer to Annex 3 for the estimated timelines for the initiative.
- Design of media campaign for the exercise;
- Modalities for the selection of street addressing fieldworkers; and
- Procurement of materials needed by the Assembly to implement the system.

3.1.1   Conducting a Media Campaign for the Street Addressing System
i.   Communication and education are very essential for the exercise for the following reasons:

- For the public to better understand the objectives and purpose of the system;
- Solicit public cooperation and support for the introduction of the system;
- Need to create public awareness for people to volunteer information that will facilitate the establishment of the system;
- Need to promote community responsiveness in maintaining the street naming logistics.
- Need to promote acceptance, ownership and usage of the system when it is established.

The approach to communication and education developed by local governments shall be based on a national communication strategy formulated for implementation of the system.

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[3] There will be the need to factor into the approach a strategy to pilot the exercise before executing it on a larger scale.

ii.   It is a good idea to launch regular education campaigns, reaching out to the public at large. Several media options are used simultaneously including radio, newspapers, television, posters, flyers and official inauguration of the operation.

iii. **Set up the campaign:** The campaign has to carried out to coincide with the important steps of the operation, such as:

- the pilot operation (see Annex 6 for details)
- onset of the implementation phase
- midway through the implementation phase
- final stage of the operation

Specific local conditions should inform options adopted by Assemblies in their efforts in reach out to the public.

3.2   Implementation Phase

The implementation phase will involve key activities as follows:

- Preparing the address map and the street index (mapping),
- Producing and installing street signs,
- Numbering entryways according to the coding system adopted and execution of survey,
- Setting up an address directory,
- Conducting media campaign for the street addressing programme.

3.2.1 Preparing the Address Map[4] and the Street Index[5] (Mapping)
This stage of the process involves three main activities including accessing maps, codification[6] and input of street names and property numbers.

3.2.1.1 Accessing Maps
i.   There are a number of maps available in various government organisation including Survey and Mapping Division of the Lands Commission, GHA, DUR and DFR which can be accessed for use. However, the data obtained from these agencies must be verified and access ways not covered captured.

ii.   Preparation of address maps by determining the range of access ways in a location will facilitate the determination of beginning and end points as outlined in Figure 1. This will serve as a basis for the coding system.

iii. Auto-photo maps generated for the UPN exercise from the head office of the Town and Country Planning Department will be idea for street naming as that responds adequately to the requirements outlined in Section 2.3.10.

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[4] **Address map**: A map that specifically indicates street names and numbers, the beginning and end of each street, and the main facilities. This map is accompanied by a street index.

[5] **A street index** is table that lists streets in alphabetical order or by neighborhood so that they can be located on a map using an alphanumeric grid.

[6] **Codification**: The process of identifying streets by a name or number and assigning a number to properties

3.2.1.2 Coding

Coding involves assigning unique numbers or names to streets as a means of making it easy for identification and use for navigation ultimately. This includes defining the coding system for numbering properties. Harmonised coding systems have been established by Ghana Highway Authority, Department of Urban Road and Department of Feeder Roads which have to be reviewed for their suitability for use by the Assemblies. In instances where the coding is incomplete, MMDAs will have to seek the assistance of the Road Agencies to assist with coding of streets not covered. The coding system of the various Road Agencies is provided in Annex 1.

The coding system should respond to the following principles: It should:

- make it possible to rapidly codify all streets until they are "named"; streets that are already named keep the names if they comply with the naming requirements, but also receive a number which is inscribed on the street name plate.
- allow for rapid identification by all road users. For example, road users such as taxi drivers should be able to rapidly identify the zone in which the street is located, when they need to.
- be adaptable to different types of towns, namely structured or non-structured neighborhoods. It should also be so designed to accommodate areas experiencing rapid development.

Coding streets in practice involves four major steps as follows:

- A decision on the type of street identification system to be adopted;
- Segmentation of the town or community into sectors;
- Determination of the general direction in which streets run; and
- Selection of the system for numbering.

The operational details of the above are outlined below:

i. The first step is to **decide on a street identification system,** which can be a number or name but in most cases the use of both numbers and names are permissible. .

- **Allocating Street Numbers:** Each street must be allocated a number from where it starts to the end point. Street numbers are to start with the sector or community code or prefix where they are located. For example, a street with the number 1.005 is the street bearing the number 5, located in sector 1.

  In practice, usually a numeric system is applied initially before later names are allocated. However, the two systems of numbering and naming can be combined where major streets are named and their numbers also displayed on street name plates.

- **Allocating Street Names:** The naming of streets should be based on the guide provided in Section 2.1.1. The factors to take into account are the hierarchy, themes for the names (famous people, historical dates, countries, towns, plants, etc.), division of the town, community or city. The naming of streets as earlier indicated shall be carried out in consultation with traditional authorities and approved subsequently by the Assembly's Statutory Planning Committee.

ii.   **Segmentation of the Town into Sectors:** To make it easy to apply the identification system, the town or locality should be sub-divided into sectors with each containing a number of streets. This sub-division exercise should take into account the pace of urbanisation of the city or locality to ensure that adequate provision is made for a sizeable increase in the number of streets in the future.

- **Coding in Small Towns:** In the case of small owns, consideration shall be given to segmenting into three or four sectors using important land marks as streets or natural limits such as rivers, etc. Selection of the range to be used for the different sectors could be in batches of 100 (100 to 199, 200 to 299, etc.) depending on the existing and proposed number of streets per sector. See Figure 17 and 18.
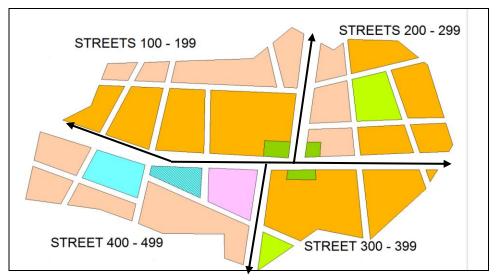

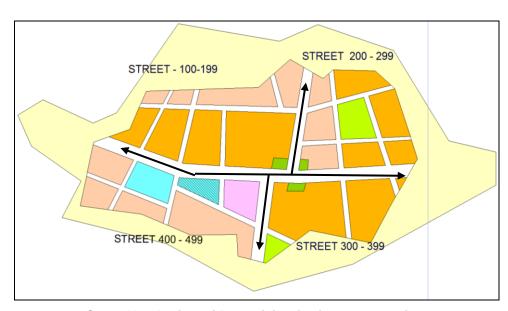**Figure 17:**   **Street Numbering without provision for future expansion**

Figure 18:   **Street Numbering with provision for future expansion**

- **Coding for Medium and Large Size Town**: The approach here envisages street numbering according to a geographical sub-division of the town. Segment the city, locality or town into sectors (see Figures 19 and 20). The subsequent processes are as follows:

  o Allocate to each sector a range of street numbers depending on the number of existing and future streets. Each street number is to be preceded by a prefix which shall either be a number or letters (two letter abbreviations of the community name) belonging to the sector in which the street is situated.

  o Provision should always be made for future expansion. For example, 250 numbers might be allocated to a sector currently containing 100 streets.
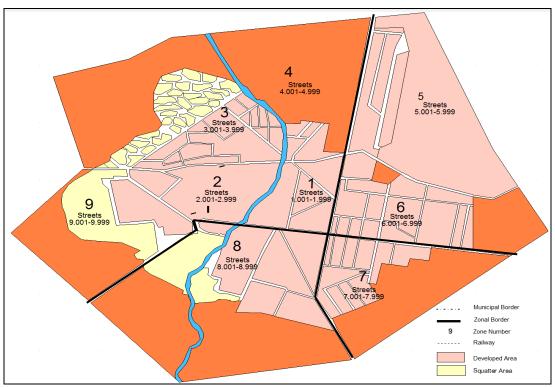

Figure 19:   Sector Coding for Numbering of Streets

iii.   **Determine the orientation of the streets** – The Department of Urban Roads has pre-determined the general orientation of streets in a West – East direction. Thus, the same principle should be adopted after the orientation of the town or city has been determined.

Choose the numerical progression system: To set up the street addressing system:

- Identify linear points of reference (streets, railways, rivers, etc.) in a north – south axis and an west–east axis close to perpendicular as possible. The intersection should be close to the true center of the town. The two axes must match with the limits of street addressing sectors by almost traversing them.

The north-south will be the reference point for even numbered streets and the west-east for odd-numbered streets.
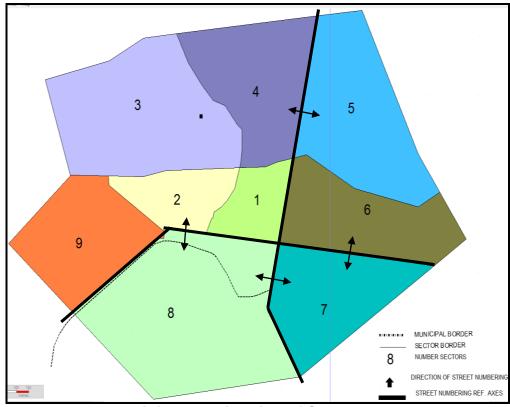

Figure 20:   **Determining the Direction of Streets**

- The numbering of the streets is defined by axis as the origin. The numbers will thus progress on both sides of each of the axis, from the lowest number to the highest. The numbering in each sector starts from zero, but maintains the same order of progression.

  As far as possible, axis should be oriented in line with the cardinal directions: north south and west-east. But this rule can be modified when there are obvious, simple, geographical landmarks, such as a river or perhaps a shoreline.

iv. **Select the system for numbering buildings: The principle of entryway numbering:** Numbering will be carried out using the sequence outlined in Sections 2.3 to 2.3.1

v. **Digitisation of Street Names:** Address Maps which have street names inputted and numeric address for properties will be produced by the Street Addressing Team. The numbers assigned to the properties will be used for the fieldwork. This helps to reduce errors on the field.

3.2.2 Installation of Street Name Signs at Intersections (Installation of Street Names),
The three key activities here include:

– Development of street signage maps

- Production Of Street Name Signage
- Installation Of Street Names

In most cases it is envisaged that there may not be adequate resources to undertake the production of street name plate for installation, as such the process outlined in Section 3.2.3 can be applied. This will require the use of stencils to inscribe street names on corner houses of intersections as well as numbers at the entryways of properties.

3.2.2.1 Development of Street Signage Maps

The first task of this process is to decide on the signposting system by:

- Selecting the type of signs to be used. That is, whether street name plates will be placed on walls or sign posts;
- Determining whether street name placements are to be densely, moderately or lightly populated.

The second task seeks to develop sign maps by:

- Using the segmentation previously adopted to section the community into sectors for the preparation of street name sign map to guide the installation exercise;
- preparing the base map by enlarging the street addressing map for each sector;
- for each sector, sketch out the placement of street name plates indicating whether they are to be placed walls or signposts. See Figure 21;
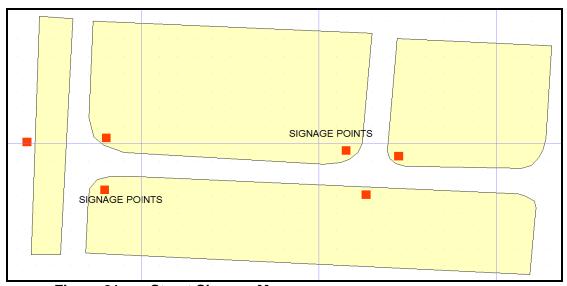- List the number and type of street names plates required by street as in Table.

SIGNAGE POINTS

SIGNAGE POINTS

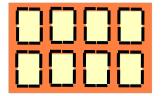**Figure 21:   Street Signage Map**

The operational details of the above are as follows:

i.   **Decide on the signage system:** The choice of the street name placement type depends on the financial capacity of the contracting authority and the characteristics of the various intersections. That is whether there are walls or fences to which street names could be fixed or sign posts have to be used. The form and structure of intersections presents two sign options:
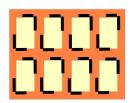
- Fixing street name plates existing walls and fences, or
- Installing street name plates on signpost.

To make the adoption of these options easier, the SAT will prepare a status report on the nature of intersections, indicating on a map as in Figure 22 all intersections where the options above can be applied.
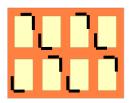
ii.   **Determining the density of street Signs:** Ideally, as a principle, each intersection is to have 8 street signs per intersection to ensure that the signs are always visible to road users from every direction. However, for cost consideration other options can be considered as below. The recommended option is to apply Medium Density for the City Centre and Lower Density for peripheral areas.

Maximum Density
(8 signs per intersection)

Medium Density
(4 signs per intersection)

Lower Density
(2 signs per intersection)

iii.   **Developing Sign Maps:**
- **Sub-divide the town in sections:** In developing the Street Name Signage Map, the SAT will need to work at segmenting the town into Sections (similar to the sectors adopted earlier).

Figure 22:   Sample of a Sector Layout

- **Prepare the base map**: The scale of 1:2500 as available for maps from the Mapping and Survey Division of the Land Commission should be used. To this shall be added:

  o position indicators for street name signs (location and type of installation: signpost)
  o entryway numbering. Enter the sequential numbering to be allocated on the map.

  The above will help to determine the **street name signs** quantity and types. Based on the map, a detailed list of all street signs needed to execute the operation can be quantified as outlined in Table 1:

Table 1:   Determining the Quantity of Street Plates and Sign Post

Street #	Name	Street Name on Walls	Number of street Names on Sign Posts
1.005	Ayiku Street	10	2
1.006	Kwame Link	2	2
1.007	Mantse Close	2	2
1.008	Lomotey Street	8	2

With this table and other specifications, the execution phase can be launched by calling for tenders to produce and install the street name plates and sign posts.

3.2.2.3 Installing Street Name Signs

i.   The selection of a company paves the way for the installation activities to start. The first requirement is for the methodology for the installation to be laid out. This step is very important and requires major organisation to accomplish. Larger towns automatically require more signage plates thereby making the organisation of the methodology very paramount. The following should be taken into account:

- Secure a spacious facility where the street name plates can be set out in an orderly fashion and stored it;
- Prepare the work of the installation teams; and
- Systemically verifying that implementation follows the prepared signage map strictly and work plan.

Placement of street name plates on walls must be at a height that will ensure maximum legibility and reduce the risk of degradation. Street name plates placed on sign post must impede pedestrian.

ii.   **Organise the work of the teams:** Installation must be carried out very methodically to ensure efficiency and reduce mistakes in placements. Hence,

- Each team should have day-by-day installation schedule and a detailed map of the sector to be tackled.
- To ensure conformity, request made by the team should be the exact number of street name plates needed for the day as per the schedule.
- Progress made on the installation each day should be documented to ensure that there is effective record keeping on the exercise.

When the stenciling method is used, the task is to be organised in a similar manner using daily schedules, the specific sector map and exact quantity of stencils.

iii. **Install of street name signs:** Using the sign map as the basis, the contractor will install street name plates and sign posts.

   a. Street name plates shall be installed on walls at a height of 1.8 meters from the ground and at least 0.1 meter from the corner of the wall. At T-junctions a main street name plate is to be placed directly opposite the traffic approaching from the side road as illustrated in Figure 22.

   a. **Bi-directional signposts:** The bi-directional street name plates are to be at intersections. A concrete base in line with requirements in Section 2.2.1 must be complied with to ensure the stability of the signposts. To reduce the risk of theft and vandalism, galvanised steel tubing with a diameter of at least 6cm filled with concrete is recommended for use.

iv. The last step of the installation task is when the Street Addressing Team verifies the conformity and consistency of the works.

3.2.3 Numbering of Properties and Data Gathering

3.2.3.1 Numbering of Properties
i. **Number the entryways:** This task is to be executed jointly with the Street Name Placement operation which may be performed in two phases, but where the plate can be fixed from the outset, only one phase will be required.

   - Phase I: Initial use of stenciled numbers for the entryways while at the same time removing old inscriptions.
   - Phase II: Fixing of number plates on entryways.

   Numbering method:
   - Each entryway will be stenciled with the number allocated using paint and brush.
   - At the same time a survey will be conducted on each housing unit or property.

   Placing number plates at entryways can be done in different ways:
   - On the entryway of a property, the number is placed approximately 153 centimeters from the ground, and at about 10 cm from the right side of the entryway.
   - When there is no fence wall, the number plate shall be placed on the building or property but should be visible from the road.
   - When a property gate or door is often left open (that of a business, for example), the number is affixed on both sides of the gate/door.

3.2.3.2 Data Gathering (Survey)
i. **Data Collection during Numbering of Properties:** The Addressing Team will train the fieldworkers to collect basic data from occupants of properties numbered to facilitate the preparation of an Address Directory. The data items are provided in Annex 7. In addition, basic data on businesses operating in the district will also be gathered.

Fieldworkers recruited and trained by the MMDAs will conduct the data gathering in addition to the field staff undertaking street name placement. The fieldworkers gathering the data will have to explain to the property owner the rationale for the exercise and the new address assigned before collecting the relevant data.

The following data may be collected:

- Suburb or community name
- Identification for the addressing Sector
- Name and/or number of the street
- Old and new number of entryways
- Property ownership details
- Property use details

ii. **Regular monitoring of operations:** To ensure that fieldworkers are achieving the right results, it is necessary that the SAT monitors the operation on a regular basis.

3.2.4   Setting-up an Address Directory
This step includes entry of the data generated into information systems for use by MMDAs and for Public consumption. This involves the following:

– Developing address index
– Preparing Address Maps (including GIS)

3.2.4.1 Developing the index
i.   The range of data gathered now and in future will have to be processed. However these will have to be done using specialised software developed for the purpose that will allow capturing for the development of an address index. The development of the index should be informed by the purposes and objectives of the data generated now or in future. The range of options available for consideration includes infrastructure, equipment, local tax services, land taxation, etc. The address indices are one of the most important outcomes of street addressing, along with signing and mapping.

ii. **Specialised software:**   the specialised software will need to have the following required functions:

- Data entry: allow for easy processing of data gathered from first surveys and future updates;
- Flexibility of parameters. The software must lend itself to modifications for different towns and different requirements. Modifiable elements should be: names of property owners, type of property use, occupation codes, street names, names of sectors.
- Research and selection. The user should be able to research any address based on any single item of linked data (name, street number, address, type of occupation, etc.).
- Statistics. The software must allow for multiple types of extrapolations and statistical queries. The user must be able to determine the number of entryways in a neighborhood, the number of shops per street, as well as the number of banks and so on.

- Geographical sectioning. The software must be able to manage geographical sectioning to order.
- Import-export. It must be possible to export data to other services, in standard formats.
- **Protection and safeguard:** Given the confidential nature of the data contained in this index, access to the entire database MUST be limited. A password is the simplest and most effective solution.

iii. **Train staff:** The staff responsible for manipulating and updating this index must take specific training on the software used.

3.2.5 Preparing and Publishing the Final Street Addressing Map

3.2.5.1 Prepare the Final Street Addressing Map
Preparing the finalised street addressing map and its street index is the last task in the operation. Once the street signs have been installed, verification carried out, census completed and data processed, the next is to develop a Final Street Address Map.

This document requires clarity and precision, and it must be easy to read. It must be designed in a manner that allows the majority of the town's public offices, concessionaries and general users to utilise it. The street index should make it easy to locate all streets and facilities, by using a code that refers to an alphanumeric grid.

Although based on the basic street addressing map drawn up earlier, this document will include additional data, generally the following:
   i. Borders of sectors or neighborhoods being addressed
   ii. Name or number of each street
   iii. Direction in which each street is numbered (indicated by arrows at the beginning and end of the street)
   iv. Public facilities: administrative, scholastic, sports-related, etc.
   v. Parks
   vi. Commercial facilities
   vii. Health facilities
   viii. Cultural facilities
   ix. Transportation services (railway stations, railway lines, ports, etc.)
   x. Historical and cultural sites

All these data can be grouped into families and the map color-coded accordingly.

3.2.5.2 Draw up the street index
The street index is a list that is developed in tandem with the street map. It includes the following details:

- street numbers
- street names and location
- references on the alpha-numeric grid
- indication of where streets starts and end.

To facilitate the process of locating a street, the index is computerised and can therefore be presented in two ways namely by addressing sector and by increasing street number; and by alphabetical order of named streets.

3.3 Maintenance Phase

The final step includes maintenance of the System, which involves the following:
- o The respective MMDA Physical Planning Department (PPD) to continue and expand street addressing system
- o District Works Department (DWD) to oversee installation and maintenance of street name plates in collaboration with other road agencies
- o The MMDAs apply the operation to urban management
- o Storage and updating of district data at the regional and national levels

3.3.1 Sustaining Street Addressing by the PPD

Implementing a Street Addressing operation is not a one off activity which ends when the system is established, as urban development evolve rapidly. Thus, sustaining the implementation involves continuing and expanding the exercise between the time the MMDA completes the fieldwork and data capture. SUSTAINING the exercise will involve focusing on new settlements that emerge, new parcels of land that have been developed and infilling for rehabilitated properties. For MMDAs to have a complete grip of these, **COMPREHENSIVE SPATIAL PLANNING AND DEVELOPMENT CONTROL IS VERY ESSENTIAL**.

Immediately after the initial street addressing operation is completed, it is necessary for MMDAs to consolidate and continue the system. The continuation and expansion should focus on both physical and institutional aspects.

3.3.2 Ensure Street Name Signage and the Physical Addresses are Maintained

To ensure that street names signs are kept constantly up-to-date, the following are to be complied with:

- Update the system with new development regularly in term assigning street names and numbering entryways to facilitate installation of plates. **Responsibility –PPD**
- Carry out maintenance on existing street sing plates by replacing damaged ones and installing new plates for new streets and properties. **Responsibility – DWD**
- Update street addressing maps regularly, preferably twice a year. **Responsibility – PPD**
- Process new data unto the database and generate new street addressing index (neighborhoods, street numbers, addresses and type of parcel use). **Responsibility – PPD/MIS**

4.0 INSTITUTIONAL ARRANGEMENTS

This section of the manual outlines institutional requirements for realising the objectives of establishing a Street Addressing System. It focuses on institutional arrangements at the national, regional and district levels as well as accompanying operational details.

4.1 National Level

4.1.1 National Oversight

The Ministry of Local Government and Rural Development has overall oversight responsibility regarding the implementation of the System. Whenever the Ministry has reason to believe that there has been a violation of any provision of these guidelines in any district, the DA will be notified in writing. It is the responsibility of the DA to ensure that the violation is addressed. If specific individuals or organisations are involved, notice will be served by the DA for them to comply. If such persons or parties fail to comply, the DA shall initiate necessary legal action regarding the violation.

4.1.2 National Technical Steering Committee

For the purpose of providing technical guidance to the implementation of the Street Addressing System, a Technical Steering Committee is in place at the national level.

This Committee will have membership as follows:

1.	Minister, MLGRD	Chair
2.	MLGRD	Member
3.	Ghana Highways Authority	Member
4.	Department of Urban Roads	Member
5.	Department of Feeder Roads	Member
6.	Land Valuation Division of Lands Commission	Member
7.	Survey Division and Mapping of Lands Commission	Member
8.	Town and Country Planning Department	Member
9.	Ghana Post	Member
10.	Ghana Statistical Services	Member
11.	Ghana Police Service	Member
12.	Ghana National Fire Service	Member

Other bodies which may be co-opted to participate in the committee meetings include:

1. Centre for Remote Sensing and Geographical Information System, University of Ghana
2. Department of Planning, Kwame Nkrumah University of Science Technology (KNUST)
3. Department of Geomatic Engineering, KNUST
4. Ghana Institute of Planners
5. Ghana Institution of Surveyors
6. Ghana Water Company Limited
7. Electricity Company of Ghana

4.1.3 Functions of National Technical Steering Committee

The Technical Steering Committee will advise the Ministry of Local Government and Rural Development on the following:

i. Consistency of the tools for the Addressing System Operation Manual with the legal and regulatory framework of government;
ii. How to promote sustainability and ownership of the Addressing System by MMDAs;
iii. Monitoring of implementation of the Addressing System by the MMDAs;
iv. How to facilitate access to available tools and inputs for the Street Addressing System;
v. Monitoring of implementation progress in the districts after reviewing reports received.
vi. Facilitate the development of a communication strategy for nationwide sensitisation on the system
vii. Advise on the modalities for data storage including harmonising other digital data from the key institutions such as DFR, DUR and GHA.
viii. Advise on modalities for the establishment of a national data centre for the collation and sharing of street addressing information.

4.2 Regional Level: Regional Monitoring, Coordination and Technical Support

At the regional level, the Regional Planning Coordinating Units (RPCUs) will provide monitoring, coordination and technical support to the districts in the respective regions. For the purpose of giving focused attention to the Street Addressing System, a smaller team is to be constituted out of the Unit. The team's capacity will be built to enable them assist districts to carry out the exercise. The team is to be made up of the following:

1. Regional Coordinating Director   Chair
2. Regional Economic Planning Officer   Member
3. Regional Head of Survey and Mapping Division of Lands Commission Member
4. Regional Head of Town & Country Planning   Member
5. Regional Head of Land Valuation Division of Lands Commission   Member

The regional team will participate in Training of Trainers (ToT) sessions to be organised for districts in their respective regions or any location determined by MLGRD.

4.2.1 Functions of the Regional Teams

The functions of the Regional teams are as follows:

i. Support districts to determine logistic requirements for the Street Addressing System;
ii. Assist districts to manage the implementation of the Street Addressing System. This will include monitoring, coordination and technical support;
iii. Facilitate the formation of a team of district actors for the metropolitan areas that need to constitute a planning region for the purpose of the street naming and property numbering. Areas where typically these may be necessary include Sekondi-Takoradi, Greater Accra and Kumasi Metropolitan Area among others.

4.3 District Level: Implementation Management

At the district level, to ensure sustainability and ownership, the overall implementation management of the Street Addressing will be under the auspices of the District Planning Coordinating Unit which is chaired by the District Coordinating Director. Out of the expanded

membership of this Unit, the Assembly will constitute a Street Addressing Team which will be responsible for the day-to-day coordination of implementation of the Street Addressing System. The Team may comprise of the following actors, among others:

1. Planning Officer;
2. Budget Officer;
3. Physical Planning Department Head;
4. Urban/Feeder Roads Engineer;
5. Survey Officer;
6. Land Valuation Division Officer;
7. Building Inspector; and
8. Works Engineer.

This team, in addition to others proposed by the district, will be given a three-day intensive training to enable them to effectively understand and manage the implementation of the Addressing System.

4.3.1 Functions of District Implementation Management Team (Street Addressing Team)

The district team will perform the following functions:

i. Undertake initial assessment of what resources are available for implementation of the system
ii. Prepare a plan and budget as well as a schedule covering the implementation of the whole exercise
iii. Ensure that the public is sensitised on the addressing system to ensure their co-operation during the exercise
iv. Work with the appropriate authorities at the sub-districts to locate and name roads;
v. Recruit personnel to carry out fieldwork;
vi. Supervise and monitor the updating of maps as well as its validation;
vii. Access road codes from the Ghana Highway Authority, Department of Urban Roads and Department of Feeders;
viii. Supervise the erection of street names and property numbers;
ix. Supervise the work of the consultant, contractor, fieldworkers and the survey;
x. Oversee the preparation of a computerised database of property addresses and directories in the district; and
xi. Manage access to address data to service providers and other stakeholders.

Communication and education needs to be taken up by the MMDAs as a tool for gaining public understanding and commitment to the exercise. As a result, MMDAs engaged in this exercise will need to ensure that the purpose, objective, approach to implementation and all other technical details are available in the public domain. This will also ensure cooperation and ownership.

4.3.2 Maintenance of the System

When the fieldwork of assigning names to streets and numbering of properties has been completed, the responsibility for ensuring the expansion of the naming of streets and the numbering of new developments shall be that of the Physical Planning Department in association with other relevant agencies. Maintenance of street signs shall be the responsibility of the District Works Department in collaboration with other road agencies/departments.

4.3.3 Reporting

As part of implementing the Street Addressing System, the Assembly shall report on the progress of implementation in the following areas: funds received, amounts disbursed, specific activities undertaken and the status of these activities. The reporting format of the M&E guidelines issued by the National Development Planning Commission shall be used as a guide.

The report shall be submitted on quarterly basis in line with the reporting requirements of Assemblies. Thus, the report shall be made available to MLGRD at the end of the first month following each quarter.

4.3.4 Data Management

For the purpose of effective management of the data at the level of the MMDAs, there shall be established in each Assembly a Management Information Unit (MIS) as an integral part of the District Planning Coordinating Unit. The MIS Unit shall have the following:

- o A computer on which the district's database will be stored.
- o There shall be a backup of all data stored electronically by the unit outside the office location.

The MIS Unit shall be responsible for the following:

i. Processing and storage of data generated by the street addressing exercise;
ii. Ensure the safety of the data generated by the street addressing exercise;
iii. Ensure that regular back-ups are taken for all electronic information available at the Unit;
iv. Manage request for information by keeping records of all information given out and the feedback emanating there from; and
v. Work in close cooperation with the DPCU in the maintenance of the database.

4.4 Role of Consultants

To provide technical guidance on operational details of implementing the Addressing System, the MMDAs may require the services of a facilitator/contractor. Assemblies may need to recruit a consultant using the procurement processes as set out by the Public Procurement Act 2003 (Act 633).

4.5 Role of Contractors

Contractors may be recruited to undertake the following:

1. Production of street name plates and property number plates;
2. Sign post installation for street names at the intersection; and
3. Gathering of the relevant basic data as part of numbering the properties.

Annex 1:   Road Coding System Applied by the Road Agencies

The road agencies namely the Ghana Highway Authority GHA, Department of Urban Roads and the Department of Feeder Roads all have established coding systems for the range of roads under their jurisdiction. Indications from all these road agencies are that their coding systems have been harmonised and the roads under their jurisdictions are georeferenced using a geocoding system. This provides a very good platform for the MMDAs. For the purpose of the street addressing system the coding adopted by these agencies are subsequently outlined.

Ghana Highway Authority
As explained in Section 2.1.3, the GHA has a system of identifying its three types of highways as follows:

     iv.   Highways are truck roads which are national in nature. These are represented with the suffix **N.**
     v.   Inter-regional roads are represented by the suffix **IR** and refer to truck roads that provide a link between two adjoining regions.
     vi.   Regional roads have **R** as their suffix and are truck roads within a region linking a number of districts.

The numbering is done chronologically to identify the roads. Each of the categories of the road definitions are given extensions in a south-north directions at major intersections but the road identifier remains the same for its entire length with extensions increasing with the range of major intersections. The coding has a east-west orientation.

Department of Urban Roads (DUR)
The DUR has a unique referencing system that links each urban road. This takes into account the Metropolitan area/Municipality in which the road is found, the sub metro or zonal council in which it is, the road class, the road number and the road link number.

The unique referencing system utilises the parameters defined in the following form: **AC-AY-D-9999-99**, where

- AC: represents the Metropolitan/Municipal Area (e.g. Greater Accra)
- AY: represents the sub-metropolitan or zonal area (Ayawaso)
- D: represents the class of the road (local road)
- 9999:   represents the road number which is done chronologically from the west to the east.
- 99:   represents the road link number

Thus, the unique reference for the third link of a local road with a road number 0335 in the Ayawaso Sub-Metro of the Accra Metropolitan area will be defined as **AC-AY-0335-03**.

The unique referencing is mapped in a geo-spatial database. A database for the road inventory is based on the fields in the PMMP of the Ghana Highways Authority is linked to a spatial database.

Department of Feeder Roads (DFR)
DFR's system of referencing is designated unique identifiers in a GIS Road Database System. The main features of the unique identifiers are to define a road on the following basis:

- The Regional Code by the first letter of its name and R for region.   Thus, Ashanti Region is **AR** followed by
- The District Core – such as **ADE** for Adansi East followed by
- The functional class - **A** (for Access), **C** (for connectors) and **I** (for inter-district) followed by the number of counts (0001 – 10000etc.). A typical road ID would be in this form **AR-ADE-A-001**.

Annex 2:   GHA Road Map of Ghana

Source: Ghana Highway Authority

Annex 3:   Generic Work Plan for Implementation of SAS by MMDAs

Areas of Action	Duration in Weeks
FEASIBILITY STUDY	**14**
1. Select a consultant	10
2. Feasibility study (including codification review)	2
3. Approve recommendations	2
STREET ADDRESSING UNIT	**10**
4. Set up the street addressing team	4
5. Collect documentation	3
6. Criteria Train fieldworkers	1
7. Consultative meeting	2
MAPPING	**46**
8. Base map (including georeferencing)	32
9. Inventory streets and intersections	4
10. Codify streets on the map	5
11. Prepare map and street index	2
12. Print map and index	3
SURVEYS AND NUMBERING	**36**
15. Prepare questionnaires and materials	6
16. Recruit and train fieldworkers	4
17. Pilot operation	1
19. Surveys and number entryways	25
ADDRESS DIRECTORY	**33**
20. Record data	28
21. Process and publish data	5
INSTALL STREET SIGNS	**50**
23. Request for bids to manufacture signs	8
24. Select supplier	2
25. Signage map and list of signs	5
26. Manufacture signs	15
27. Receive the signs	2
28. Request for bids to install signs	8
29. Select company to install signs	2
30. Install signs	8
MEDIA CAMPAIGN	**48**
6. Media campaign	11
18. Media campaign	2 1
22. Media campaign	3 2
MAINTENANCE	**14**
32. Update surveys and numbering	12
33. Update street system and signage	6
34. Update map	6

Annex 4: Layouts and Map Register

District: ………………………… Sub-district:……………………………

#	Community Name	Sector Number	Please tick as appropriate				Estimated # of Streets	Estimated Number of Houses	Remarks
			Georeferenced Layouts	Georeferenced Maps available	No georeferenced Layouts & Maps	No layouts and Maps			

Annex 5:   Terms of Reference for the Recruitment of a Consultant to Assist with the Implementation of the Street Addressing System

Background
In recent times, central government has expressed great concern regarding the absence of comprehensive street names and property numbers in urban areas. Although there have been makeshift solutions, urban services have not functioned over the years without a myriad of challenges and difficulties. In addition, our urban settlements have been fraught with increasing population with its attendant urban management problems which manifest in:

- Poor housing and property development due to improper use of land;
- Lack of zoning to ensure efficient and effective disposition of activities in space;
- inadequate provision services to properties and the population;
- traffic congestion during rush hours; and
- the mounting difficulties associated with provision of emergency services in times of fire robbery and health among others.

Thus, the following questions arise in respect of how urban services function:

- In the absence of an effective identification system, how do city dwellers and visitors find their way in an ever-expanding town?
- How can commercial entities easily locate their clients and offer the needed services?
- Would services such as ambulances, fire or security be able to operate effectively?
- How can courier services be to homes with ease apart from public?
- How can water, electricity or telephone network breakdowns be tracked and fixed?
- How can tax collection agencies and local authorities effectively function?

Dwellers and visitors to our urban environment devise ways to overcome these difficulties and questions by using temporal landmarks which presents its own challenges. This situation is mounting and has serious development implications for our municipality and the Assembly is intending to address this by launching a special programme of street addressing. This ToR seeks to define the scope of services required by the Assembly to establish a Street Addressing System.

Objective
The objective of the assignment is for a consultant to facilitate the process of the establishing the street addressing system by defining the operational conditions and implementation requirements.

Scope of Work
The implementation of the street addressing system in the district is intended to have three phases namely preparation, implementation, and maintenance. The key objectives for Assembly establishing the street addressing system are the following:

- Ensure quicker response by emergency service providers by enabling easy identification of locations of need;
- Promote efficient delivery of municipal services in urban areas as well as overall urban management; and

- Provide location addresses to contribute to easy identification of places; improve tax/revenue collection by revenue agencies and promote operations of businesses generally.

The Assembly as part of the rolling this programme has set-up the Street Addressing Team under the guidance of MLGRD and the RPCU. The consultant is to assist with the implementation of the system by facilitating processes to enable the Assembly to accomplish the following:

- o a coding system for streets using the coding system by the road agencies as an entry point;
- o practical methods for mapping, numbering, surveys, sign installation, and creating an address directory;
- o a programme of work for the implementation of the key activities;
- o a phased budget for the implementation of the system
- o to organise and execute the programme; and
- o Process the data to establish the Address Directory.

The following professionals may be needed:

1. An urban professional (planner or city engineer) with expertise in street addressing system
2. A specialist in digitised mapping
3. A specialist in geographic information systems and database processing
4. An urban planner with expertise in urban management

Reporting

Submission of inception report will be two weeks after the signing of the contract. A detailed report should be submitted six weeks after the submission of the inception report. The detailed report shall contain the following key ingredients:

- An assessment of the existing coding system and the associated challenges. Proposals for a new coding of the street;
- The methodology for the execution of mapping, numbering, surveys, sign installation and creating an addressing directory;
- Work Plan and Budget for the key activities including the logistics requirements
- Specific and general recommendations for the implementation of the system based on peculiarities of the district.

Annex 6:   Process for Piloting the Street Addressing System

The following tasks shall be executed to pilot the Street Addressing System before full implementation is carried out.

First step is to select the pilot zone
The selection criteria and other related activities may include:

- The SAT holding a session to design the approach to implementing the pilot;
- A relatively small locality of not more than 50 to 100 properties should be targeted;
- Obtain the map for the selected area;
- Determine the street hierarchy;
- Section the areas for the assignment if it is necessary and determine the way street run;
- Determine the beginning and end points of streets to establish the number of streets to be named;
- Apply the naming standards to determine how streets should be named in consultation with traditional authority;
- Apply the property numbering standards to number properties;
- Prepare a list of names and number plates to be produced using the template in Table 2;
- When the names and numbers are determined, it may be necessary to award a small contract to produce the street name and property number plates;
- Prepare the signage map;
- Prepared data collection forms and print the necessary copies;
- Select fieldworker who could be personnel of the District Works Department of the Assembly or persons recruited through a shortlisting process;
- Develop a programme for the fieldwork;
- Train the fieldworkers on the exercise to be conducted; and
- Purchase other materials like cement, gravel, sand etc. for the erection of sign posts.

The second step is to address the pilot zone
Based on the programme, execute the following activities;

- Undertake public education;
- Undertake an exercise to identify all the spots where sign posts are to be erected;
- Assign crew to undertake digging of the points based on agreed depth and size;
- On completion of the above, assign the crew to install sign post;
- After one week installation of the street name plates shall start;
- As the installation of the street name plates is on-going, the installation of number plates on properties and data gathering should start.
- The SAT based on the work programme will monitor implementation and take note of any lapses and challenges to factor into the full scale implementation;
- When the pilot exercise is successfully completed, there shall be an official inauguration. This will have a major media impact.
- Another pilot may be carried out if an Assembly is not comfortable is the initial pilot.

To ensure that the full scale implementation is very successful, the SAT will need to thoroughly discuss the good practices and the pitfalls of the pilot phase and take specific actions to ensure better results.

Annex 7:   Property Address Register

Suburb/Community: …………………………… Sector: ……………….. Street Name: .... Street Code: ....

No.	Old Property Number	New Property Address	Property Owner/Caretaker		Property Details			Remark
			Name	Contact #	Description	# of Rooms	Use Type	

Description of property – Indicate number of storeys and whether it is semi-detached, terrace, detached or a compound house.