4.15 Land Management: Zoning Draft

Disclaimer: This is a first attempt to provide guidance in preparing the information product needed for the CLUP and is intended to be used hand-in-hand with Volumes 1 and 2. As more knowledge is gathered, the IP will be updated. Likewise, revisions may be required due to new or changing land use policies. Furthermore, data will continuously be prepared by the custodians, which may require updates.

For the latest update, please check HLURB Homepage: http://www.hlurb.gov.ph/ or contact HLURB, telephone +632 927 2698.

Step 1: Background and Objective of the GIS Analysis

The Land Use Plan is a technical document containing the vision, goals, objectives, policy statements, strategies, programs and projects for the development of the municipality/city in the given planning period and beyond. One mechanism of implementing the plan is the Zoning Ordinance which is the legal document that enforces specific and detailed rules and regulations regarding land uses, and the systems, procedures and incentives and/or sanctions for its implementation.

Zoning is the division of a community into zones or districts (e.g. commercial, residential, industrial, institutional, etc.) according to present potential uses of land to optimize, regulate and direct their use and development in accordance with the Comprehensive Land Use Plan (CLUP). It is in the form of a locally enacted ordinance that embodies among others, regulations affecting uses allowed or disallowed in each zone or district, conditions for allowing them, and deviations legally allowed, from the requirements of the ordinance.

Zoning is concerned primarily with the use of land and through imposition of building heights, bulk, open space and density in a given area.

The objective of using GIS is to facilitate the preparation of the Zoning Map and make it easy to revise when necessary.

Step 2: Identify the Indicators to Evaluate Objective Fulfillment

Zoning consist of two major elements: the Zoning Ordinance and the Zoning Map:

The Zoning Ordinance is a legally binding set of rules and regulations affirming to the usage of land in a City/Municipality. This document contains a set of allowed uses and regulations that applies to each designated zone.

The Zoning Map is a duly authenticated map defining the divisions of different planned land uses and regulations of land in to zones in a City/Municipality. It is

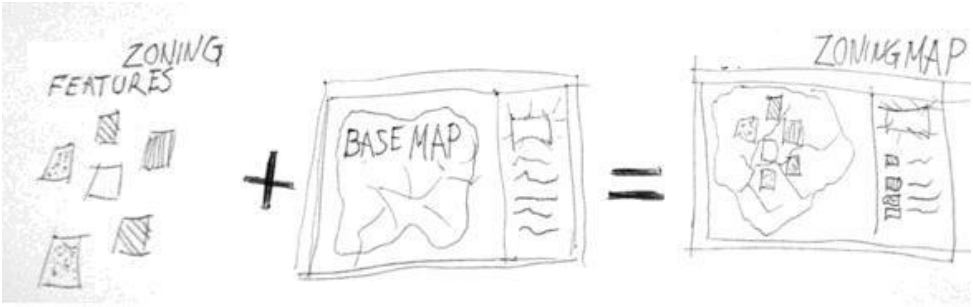
the spatial translation of the regulations to efficiently carry out the provisions of the Zoning Ordinance.

The benefits attributed to zoning are as follows:

- Maximum/optimum use of land based on suitability/capability, e.g. use of prime agricultural land for agricultural purposes.
- Promotion of public health and safety through compatible arrangement of various land use e.g. residential area should maintain considerable distance from industries.
- Preservation of desirable character and real estate values of the district or zone.
- Promotion of the rational and orderly growth of the community.

The purpose of the Zoning Map is to define the extent of each zone and make the Zoning Ordinance more comprehensible through graphic means.

Step 3: Create the Database



The primary feature for the Zoning Map is the regulated land use. To make it easy to use and understand, the Zoning map should be based on an accurate and up to date Base Map. To facilitate for the public to know which regulations apply to their area of interest, the Zoning Map can be combined with the Tax or Cadastral Maps.

The Custodian of the ZO is the MPDO. The feature types will be polygon, polylines and eventually points as well.

The Land Use Plan in the CLUP is the main source of input to the Zoning Ordinance. The Land Use Plan shows the objective of the municipality/city with regard to development and use of land. The Land Use Plan contains the vision, goals, objectives, policy statements, strategies, programs and projects for the municipality/city.

The CLUP Base Map is used to locate the areas regulated in the Zoning Ordinance. The Base Map should be adopted for use in the zoning map for the entire municipality/city, for small and large scale printouts, and for detailed zoning maps of the urban and urbanizing areas.

The features of the CLUP Base Map are described in Chapter 6 of the GIS Cookbook.

Other features used as input to the Zoning Ordinance are:

- Aerial photo or satellite image used for locating major structures in the zoned area such as industrial areas, residential areas, informal settlements, forest or agricultural areas etc., and also to show problem areas such as informal settlements, and the like.
- Business Permits to show density, type and changes over time for businesses as an input for zoning commercial zones.
- Building Permits and development projects to show density and types of development in the municipality/city;
- Tax and Cadastral Maps to encode property values;
- Hazard Maps such as Flooding and Fault zones as input to determine density and appropriate allowable uses etc;

In general the Zoning Map has the same features or land use classification as the Land Use Plan, but it provides for more detailed information on actual regulations/controls in each zone, among others.

The Zoning Classification and zone separations based on density and types, are described in the “Model Zoning Ordinance” in the CLUP guidelines. This is a minimum model that can be adopted and expanded by the municipality/city for its specific needs. Density regulations for the zoning classes can differ among municipalities/cities For example, for a highly urbanized municipality/city, a low density residential area (R1) may allow buildings up to 4-storeys, while in other municipalities/cities an R1 area allows only 2 storeys.

For municipalities/cities with low development, diversifying the zones due to density and type etc. may not be needed. In this case, the zoning classification can be general, i.e. classified as General Residential Zone instead of specifying the density.

The following features are included in the dataset for the Zoning Map and should have a unique zone id and if applicable a name for each zone:

Zoning Class	Description
Residential	An urban area within a city or municipality principally for dwelling/housing purposes. Residential zones can be subdivided into areas of Low, Medium or High Density.

Socialized Housing	An area used mainly for dwelling/ housing purposes for the underprivileged.
Commercial	An urban area within a city or municipality for trading/services/ business purposes. Commercial zones can be subdivided into areas of Low, Medium and High Density.
Industrial	An urban area within a city or municipality for industrial purposes. Industrial zones can be subdivided into areas of Light, Medium and Heavy.
Institutional	An urban area within a city or municipality principally for institutional establishments. Institutional zones can be subdivided in to General and Special.
Agricultural	An area within a city or municipality intended for cultivation/fishing and pastoral activities.
Agro-Industrial	An area within a city or municipality intended primarily for integrated farm operations and related product processing activities.
Forest	An area within a city or municipality primarily intended for forest purposes.
Park and other Recreation	An area designed for diversion/amusements and for maintenance of ecological balance of the community.
Water	Bodies of water within cities and municipalities which include rivers, streams, lakes and seas.
Tourism	Sites within cities and municipalities endowed with natural or manmade physical attributes and resources that are conducive to recreation, leisure and other wholesome activities.

Step 4: Analyze the Data

Not applicable

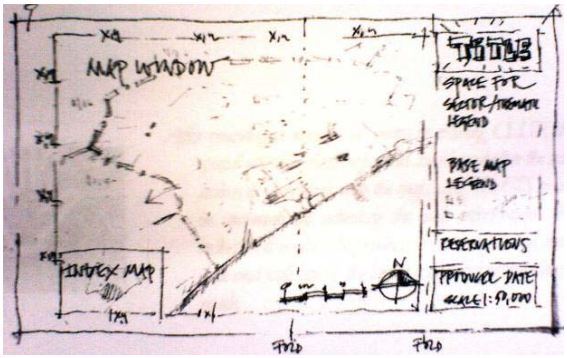
Step 5: Present the Data

The key output component of the Zoning Map is the printed version, which is included in the CLUP document and used in monitoring of development etc.

Another important output from the Zoning Map, is the zoning data that can be used in the issuance of development and building permits, monitoring etc.

The mandatory Zoning Map is the map for the entire municipality/city, which includes the urban and rural areas. Other maps are the detailed zoning maps for the urban and urbanizing areas which are larger scale maps.

Other special considerations in preparing the Zoning Map such as the placement



of the index map, legend, north arrow, scale etc. are discussed in the Base Map Chapter (Chapter…).

Title
The title of the Zoning Map should be the name of the LGU or area shown in the zoning map. For example, for the mandatory Zoning Map covering the LGU the title should be "Zoning Map for the Municipality/city of XX," and for an urban or urbanizing area the title should be "Zoning Map for Barangay YY in the Municipality/city of XX."

Legend
The order of the legend should follow that of Table 1 (above). The legend shall only contain the zones appearing in the Zoning Map, i.e., for a zoning map of an urban or urbanizing area, there might not be any forest area, thus it should not appear in the legend.

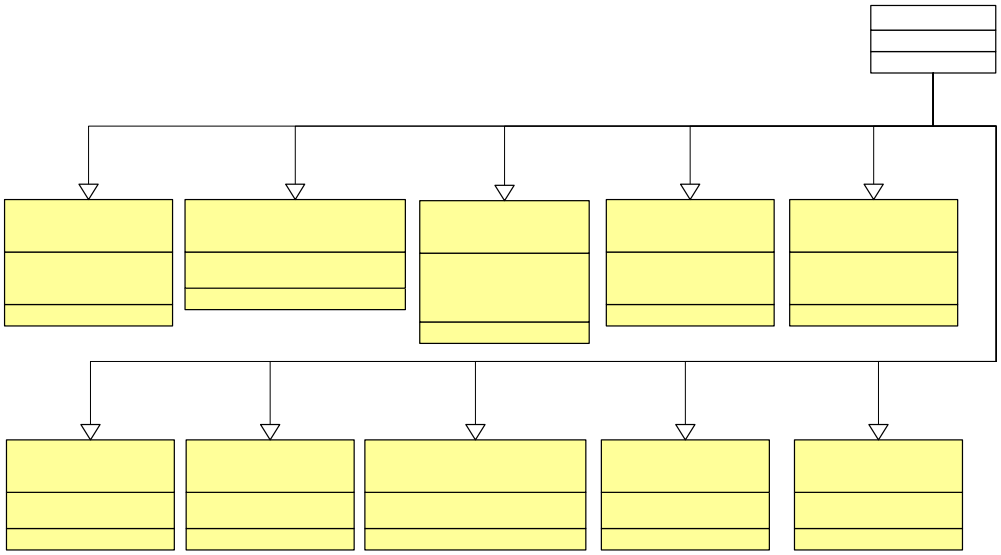
The Zoning legend should be placed on top of the Base Map legend.

Format of Zoning Map
The Zoning Map for the entire municipality/city shall be printed in a recognized scale and in a format that makes it possible to clearly distinguish the symbols and features.

For the urban and urbanizing areas, the Zoning Maps shall be printed in a recognized scale between 1: 1,000 to 1: 10,000 in accordance with Volume 10 in the CLUP Guidelines, and printed in a AA format (A4-A0).

The A3 format is the recommended choice for the Zoning Map of an urbanized area.

Keys for the Zoning Data
The data established in the GIS during the preparation of the Zoning Map, will be useful for other computerized systems handling Building and Business permits monitoring of development project etc. for the LGU and other National Government Agencies such as HLURB, etc.



The Zoning map is therefore transformed into a generic feature model and table templates.

The data shall be built up in a database or file structure in the GIS application by the tables in the GIS Cookbook Metadata Model, or should be transformed accordingly.

ZM01_Residential
{Alias = Residential Zone,
GeometryType = Polygor}
-Unique ID[´] Integer
-Name[´] String
-Density[´]

ZM02_SocHousing
{Alias = Socialaized Housing Zone,
GeometryType = Polygor}
-Unique ID[´] Integer
-Name[´] String

ZM
{Alias =
Geome
-Unique
-Name[
-Density
-Type[´

ZM06_Agricultural
{Alias = Agricultural Zone,
GeometryType = Polygor}
-Unique ID[´] Integer
-Name[´] String

ZM07_Forest
{Alias = Forest Zone,
GeometryType = Polygor}
-Unique ID[´] Integer
-Name[´] String

ZM08_F
{Alias = Park an
GeometryTy
-Unique ID[´] In
-Name[´] String