

# Guidance for Implementing The MassGIS Standard for Digital Plan Submittals to Municipalities

## Introduction

This document provides further information for municipal employees on implementing the MassGIS Standard for Digital Plan Submittals to Municipalities (hereafter “the digital plan standard” or “the standard”). Topics discussed below in these guidelines include:

1. Implementing the standard through a by-law or through subdivision or other regulations;
2. What level of the standard to implement;
3. Creating guidelines for developers
4. A suggested explanation for describing why you want to create a by-law or change your regulations; and
5. Suggested language for a by-law or regulation.

## 1. By-Law Versus Regulation

If you want the digital plan standard to apply to multiple municipal review processes (e.g., zoning board of appeals, subdivision, special permits, etc.), then implement the standard through a by-law. If you want the standard to apply only to a specific process, for example ANRs and subdivisions, then you can implement the standard through the applicable regulations.

## 2. What Level of the Standard

The standard has three levels at which it might be implemented. The levels differ primarily in only one way, although it is an important difference. That difference concerns how easily the standard digital file can be associated with a real-world location (“geo-referenced”).

Regardless of what level of the standard is required for any given development, in order to avoid copy right issues municipalities should not update their GIS data from the standard digital file until the new property boundaries are recorded at the registry of deeds and until other elements shown on the digital plan (e.g., building outlines) are constructed. Recorded and constructed features are facts and as such cannot be copy righted. This does not mean that you should not request delivery of the standard digital file early in the process. Doing so may be helpful as you review the project, perhaps even using GIS software. But you will avoid hassles with the copy right status of digital content if you only update your GIS data as described above. The copy right issue is summarized in the standard, with a full discussion in Appendix D.

## Requiring Level III Versus Level I

MassGIS recommends that unless they can implement Level II of the standard (see discussion below), municipalities should implement the standard at Level III. While Level III is more stringent for the developers, it is consistent with a trend in the surveying profession that is occurring anyway. Then for any projects that the municipal board or department considers are small or simple enough that the requirements of Level III are burdensome, they can waive the Level III requirement and permit submission of a standard digital file that complies with Level I (see discussion of waivers below).

## Requiring Level II

Level II is only an option if your community has a GIS database that includes point features such as fire hydrants, manhole covers, catch basins, or utility poles. These features are required for Level II because at that level you would require developers to reference (“tie-in” or “geo-reference”) their subdivision to at least two of those features. Level II will make it easier for you to update your GIS database while potentially still being less burdensome to a surveyor than Level III. However, requiring Level II means that you have to create your own version of the standard digital file template. This is because the point features that you want used for geo-referencing would need to be included in your template file in the “Secondary Control Points” layer in the template.

## Waivers

There will be circumstances where waiving the requirement for Level III of the standard should be considered. Therefore, as stated in the standard, you must allow for waivers to be requested. Examples of “small” or “simple” projects that might be candidates for a waiver are dividing an existing lot in half or the sale of small piece of land to a neighbor. Besides the potential burden to the person requesting the waiver, the municipal entity considering the waiver should always keep in mind the primary purpose of the standard which is to facilitate updating the community’s land records. It is a good idea to know ahead of time what sorts of conditions must exist for your community to permit a waiver from the Level III requirements. In general, if a developer knows ahead of time that they will need to meet the requirements of Level III, they can plan accordingly.

## **3. Creating Guidelines for Developers**

When you implement the digital plan standard, MassGIS strongly recommends that you provide “Guidelines for the Required Standard Digital File”. These guidelines should include the information described below and should be provided along with the application for definitive subdivision or application for ANR.

Your guidelines should specify:

1. That your community requires (reference the applicable by-law or regulation) that some parts of an approved subdivision plan be submitted in electronic format in accordance with the MassGIS Standard for Digital Plan Submittal to Municipalities available at <http://www.mass.gov/mgis/standards.htm>.
2. That the standard digital file must pass the checklist in Appendix A of the current MassGIS Standard for Digital Plan Submission to Municipalities.
3. How you want the standard digital file delivered. Examples include on CD-ROM, “flash drives” (aka “memory sticks”) and DVDs. If you accept DVDs you should be sure to specify the DVD standard that you know your computer(s) can read (for example DVD+R). You may also want to allow developers to submit the standard digital file via email, provided the file is smaller than a size you specify. Finally, another possibility, particularly for very large files, might be to submit them via FTP, although this last option would require involving your information technology support staff.
4. Where to find a template standard digital file. You can use the template available on the MassGIS web site at <http://www.mass.gov/mgis/standards.htm> (both DWG and DXF formatted templates are provided) or if you have the capability, you may wish to provide an augmented version of the template. If you provide your own template standard digital file, it must contain at least the information found in the one available from the MassGIS web site.

#### **4. Suggested Explanatory Language**

*The paragraphs below contain an explanation that MassGIS suggests you use in introducing proposed by-law or regulatory requirements that involves implementing the digital plan standard. Note that the first sentence of this explanatory language is carefully worded. The standard is NOT about requiring a copy of the source CAD file. Rather it is about requiring that map features in that source CAD file be extracted, reconfigured according to the requirements of the standard, and provided to the municipality.*

The <city/town of \_\_\_\_\_> wants to require that developers provide an electronic version (the “standard digital file”) containing selected elements of the developer’s hard copy plan. The purpose of this requirement is to reduce the time and effort required for updating the towns map information. While not all of our map information is updated electronically, this is the direction that we and many other municipalities are moving; requiring delivery of a standard digital file lays the foundation for improvements in how we maintain map information. This requirement is possible because most plans today are printed from an electronic file.

Complying with the standard may add some cost to the surveying work needed for plans required by the planning board or other municipal entity. However, once a plan is approved, the resulting development will require that our maps be updated. Therefore, adding a map maintenance cost to the development process

by requiring submittal of a standard digital file is consistent with other similar municipal charges on behalf of the public interest.

The <City/Town \_\_\_\_\_> has chosen to use the standard developed by the state's Office of Geographic and Environmental Information, also known as MassGIS, for this purpose. We chose this standard because its development involved extensive review by individuals from the various affected parties. The standard strikes a reasonable balance between the needs of municipalities and those of surveyors and developers. In developing the standard, the state has also addressed the important issues of copy right for surveyor's plans as well as their concerns about liability associated with elements from their plans being used to update public records. The portions of the standard involving copy right and liability issues were developed in consultation with legal staff from the state's Information Technology Division. An attorney representing the interests of the Massachusetts Association of Land Surveyors and Civil Engineers also participated in developing the portion of the standard that covers liability concerns.

## **5. Suggested By-Law or Regulatory Language<sup>1</sup>**

***NOTE:** The text between the angle brackets in the paragraphs below must be replaced by text specific to the community.*

To facilitate maintaining the <city/town of \_\_\_\_\_> records, for example the assessor's tax maps, an electronic file (the "standard digital file") that complies with Level <#> of the current version of the MassGIS "Standard for Digital Plan Submission to Municipalities" (hereafter "the standard") shall be filed within 15 business days of the plan being endorsed by the Planning Board. The standard is available on the Internet at <http://www.mass.gov/mgis/standards.htm>. The standard digital file submitted must comply with Level III of the standard, the vertical datum shall be <Municipality inserts one of the three choices below>

- 1) *The North American Vertical Datum 1988, or*
- 2) *The National Geodetic Vertical Datum 1929, or*
- 3) *The <local datum name> (for example, "The City of Lynn local datum") for which the conversion factor to NGVD29 is <municipality fills in conversion factor><sup>2</sup>*

Upon written request, the Planning Board may waive the requirement for submitting the standard digital file or for complying with Level III of the standard. In place of the Level III requirement, the Planning Board may allow submission of a standard digital file that complies with Level I. Any request for a waiver must include a statement as to why submitting a digital file is not possible or why the requirement should be for Level I of the standard.

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<sup>1</sup> This sample language is based on similar language from the Town of Spencer's subdivision regulations.

<sup>2</sup> A list of local datums and their conversion factors can be found on the MassGIS web site at <http://www.mass.gov/mgis/standards.htm#Planstandard>