



## What We Do

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Allegan County GIS  
[www.allegancounty.org/gis](http://www.allegancounty.org/gis)

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**Part I**

**Brand**



# Chapter 1

## Awards

### 1.1 The GIS Champion Award

#### 1.1.1 GIS Champion Award Code

```
\documentclass[landscape]{article}
\usepackage{wallpaper}
\usepackage{niceframe}
\usepackage{xcolor}
\usepackage{ulem}
\usepackage{graphicx}
\usepackage{geometry}
\geometry{tmargin=.75cm,bmargin=.25cm,lmargin=.8cm,rmargin=.2cm}
\usepackage{multicol}
\setlength{\columnseprule}{0.4pt}
\columnwidth=0.3\textwidth

\begin{document}

%\TileWallPaper{4cm}{2cm}{CoLogo133x200.png}

\centering
\scalebox{3}{\color{green!30!black!60}}
\begin{minipage}{.33\textwidth}
\font\border=umrandb
\generalframe
{\border \char113} % up left
{\border \char109} % up
{\border \char112} % up right
{\border \char108} % left
{\border \char110} % right
```

```

{\border \char114} % lower left
{\border \char111} % bottom
{\border \char115} % lower right
{\centering

\includegraphics[height=1.25cm]{GIS_Logo_better.jpg}
%\end{minipage}
\vspace{-8mm}

\curlyframe[.9\columnwidth]{

\textcolor{red!10!black!90}
{\small Allegan County GIS Services}\\
\textcolor{green!10!black!90}{
\tiny recognizes}

\\
\uline{\textcolor{black}
{Ian Hanes}}
\\
\smallskip
\tiny Chief Equalization Technician
\smallskip

\textcolor{green!10!black!90}
{
\tiny as a
}
\smallskip
\tiny
\\
\textcolor{black}{\large \textsc{GIS Champion}}
\\
\vspace{1mm}
\textcolor{green!10!black!90}
{
\tiny for outstanding dedication and service to the community
\\while using GIS technology on this day
\itshape June 29, 2018
}
\vspace{3mm}

{\color{blue!40!black}
\scalebox{.6}{

\begin{tabular}{ccc}

```



```
\cline{1-1}
%\cline{2-2}
\cline{3-3}
%\cline{4-4}
%\cline{5-5}
\\
Neil Besteman & & Bryan May \\
GIS Manager & & GIS Analyst \\
\end{tabular}
}}}}
\end{minipage}

}
\end{document}
```



# **Part II**

## **Methods**



## Chapter 2

# Documentation

### 2.1 About Documentation

#### 2.1.1 How This Book Works

**Project General Notes:**

- Book folder can be renamed and moved.
- This project is coded with relative paths from processing folder down.

**Project file structure:**

J:\LIS\GIS\_Doc\mybsBook\build

pdf docs created by the underlying .tex docs and copied here manually.

J:\LIS\GIS\_Doc\Book\source

images that appear in \GIS\_Documentation.tex.

J:\LIS\GIS\_Doc\Book\processing

the Tex workspace.

\GIS\_Documentation.tex

top level of documentation of type "book" in L<sup>A</sup>T<sub>E</sub>X. Where book properties and book parts are managed and chapters are imported.

\archive

archive copies of entire processing folder.

\brandPart

L<sup>A</sup>T<sub>E</sub>X "book part" about the brand.

`\methodsPart`

L<sup>A</sup>T<sub>E</sub>X "book part" about the methods.

`\servicePart`

L<sup>A</sup>T<sub>E</sub>X "book part" about services.

`\build`

folder for temp docs when `GIS_Documentation.tex` is compiled.

**\* Note: each level from here down has a build folder for temp Latex files like this.**

**Service Book Part Detail**

relative path:

```
\processing\servicePart
```

absolute path:

```
J:\LIS\GIS_Doc\Book\processing\servicePart
```

```
\toolsChapter.tex
```

intermediate level of "book" in  $\text{\LaTeX}$ . Where (service part, tool) chapter properties are managed and sections are imported.

**toolsChapter**

relative path:

```
\processing\servicePart\toolsChapter
```

absolute path:

```
J:\LIS\GIS_Doc\Book\processing\servicePart\toolsChapter
```

**$\text{\LaTeX}$  file** \QGISSection.tex

intermed level of "book" in  $\text{\LaTeX}$ . Where book section properties are managed and subsections are imported.

## **2.2 Document Storage Concepts**

### **2.2.1 GIS File Standard**

**Folders inside the project folder**

- archive
- build
- delivered
- documentation
- processing
- source



## **2.3 Team Concept**

### **2.3.1 Paired Programming**

some point about pp



# **Part III**

## **Service**



# Chapter 3

## Tools

### 3.1 QGIS Tools

#### 3.1.1 Using COGO Tools in QGIS

**Set up the Azimuth and Distance Plugin**  
(**Azd Plugin**).

In the Plugins drop down(1), under the topography group select the **Azd Plugin(2)**(see fig.).

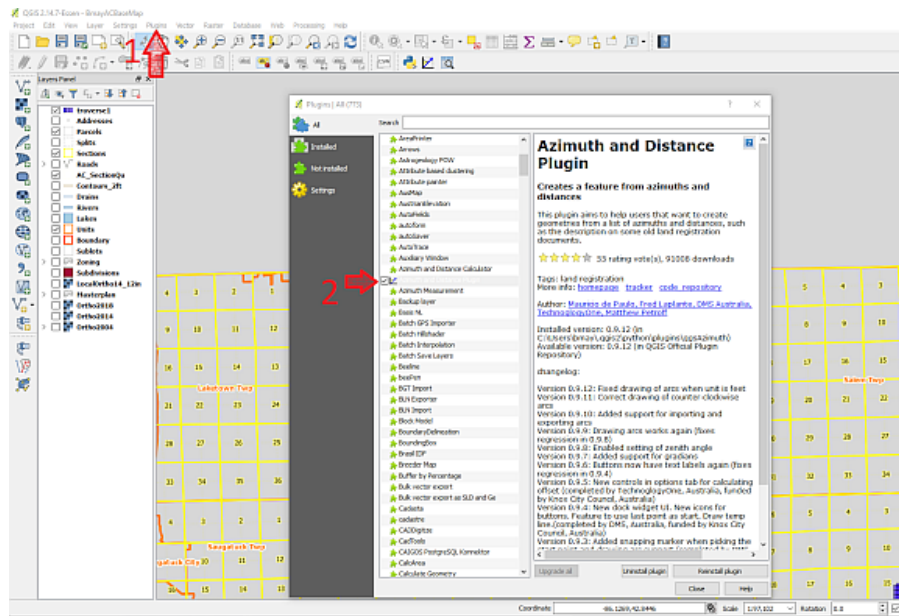


Figure 3.1: launch plugin

Note here which layer is active (see fig.).

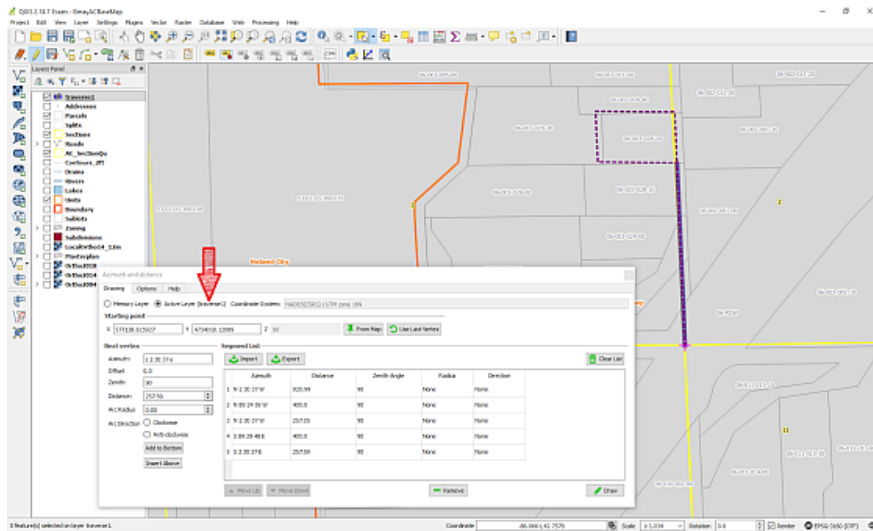


Figure 3.2: check active layer

If necessary, left click the layer *traverse 1* in Layer Panel to activate it(see fig.).

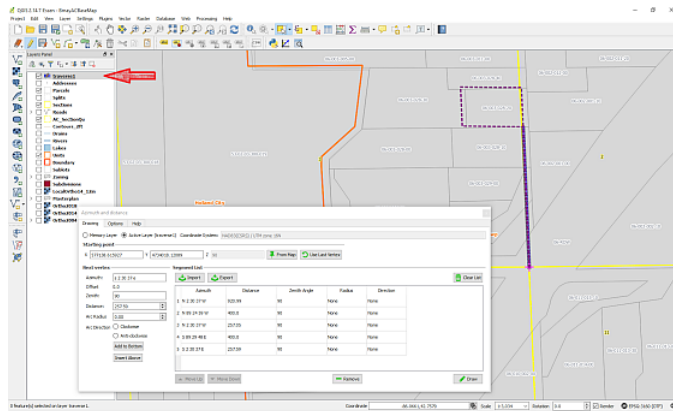


Figure 3.3: activate layer



**Configure Options** On Options Tab: Select Boundary, Bearing, Feet, and Degree radio buttons.

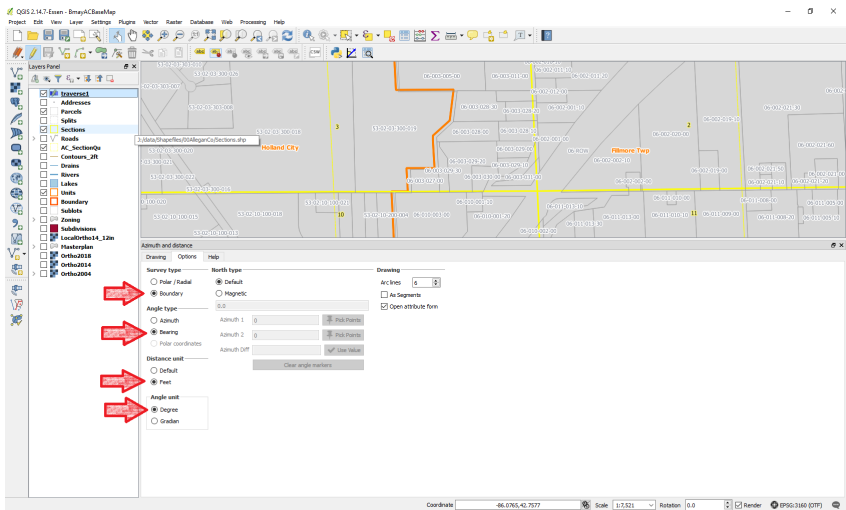


Figure 3.4: Plugin Options

**Using the tool** Boundary descriptions are entered into the Drawing Tab. Azimuth (bearing) and Distance are the important boxes (Set Offset = 0 and Zenith = 90 and ignore)(see below).

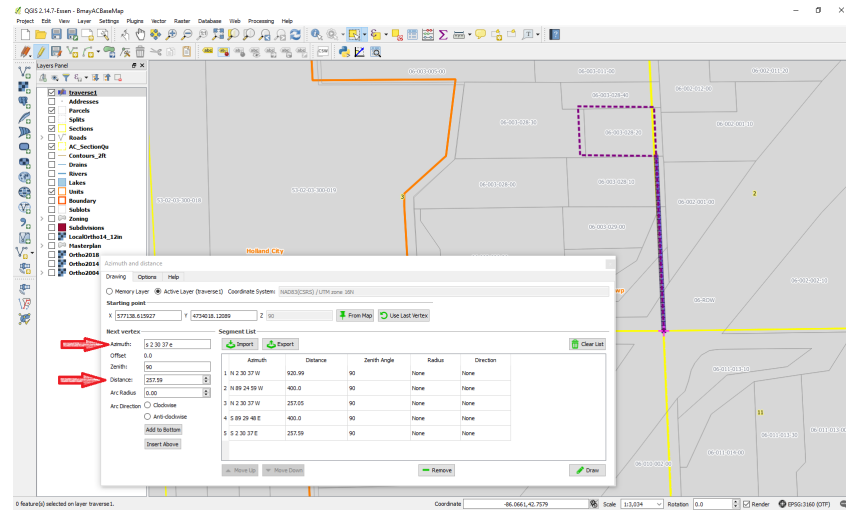


Figure 3.5: Entering Bounds

## Configure editing environment

Use Settings Dropdown and Snapping Options to enable snapping to Sections, Quarter Sections, and or Parcels if desired (see fig.).

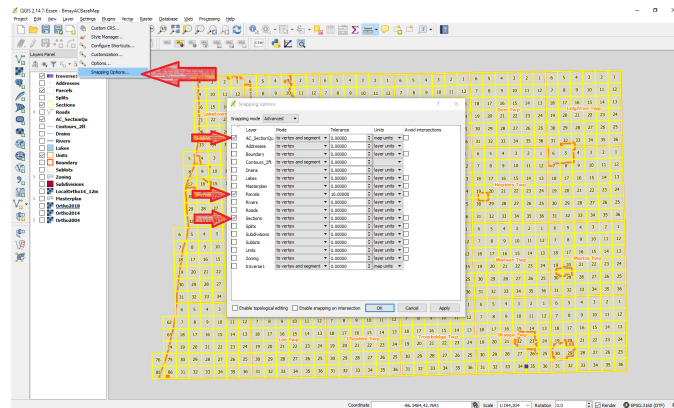


Figure 3.6: Configure editing environment

## Locate Point of Commencement

To get to the Point of Commencement,

Use **any combination** of the following methods:

- Using Reference Layer
- Using Measuring Tool
- Search by Parcel Number (Search Layers Plugin)
- Draw COGO lines (Azd Plugin)(as described earlier)

**Using Reference Layer** Use reference layers; Units, AC\_SectionsQu, Sections, and Parcels. Toggle layers on and off in Layers Panel and zoom in and out with mouse wheel.

**Using Measuring Tool** Use the measuring tool, make sure to set units to feet. To exit current measurement right click (see fig.).

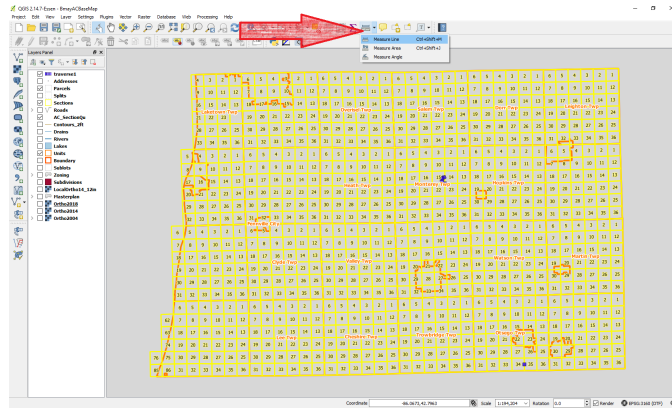


Figure 3.7: Measuring Tool



## 3.2 L<sup>A</sup>T<sub>E</sub>X Packages

### 3.2.1 float Package

**BLAH**  
(BLAH).

### 3.2.2 graphicx Package

**BLAH**  
(BLAH).

### 3.2.3 import Package

**BLAH**  
(BLAH).

### 3.2.4 url Package

**BLAH**  
(BLAH).

### 3.2.5 wrapfig Package

**BLAH**  
(BLAH).

## 3.3 L<sup>A</sup>T<sub>E</sub>X Templates

### 3.3.1 L<sup>A</sup>T<sub>E</sub>X Section Template

```
\documentclass[class=book , crop=false]{standalone}

\usepackage[subpreambles=false]{standalone}

\input{../../preamble}

\begin{document}

\section{SECTION NAME HERE}

\subimport{RELATIVE PATH TO NEW Section/}{NEW SUBSECTION Subsection.tex}

%eg.
%\subimport{latexTemplatesSection/}{subsectionTemplateSubsection.tex}
% etc...
```

```
\end{document}
```

### 3.3.2 L<sup>A</sup>T<sub>E</sub>X Subsection Template

```
\documentclass[class=report , crop=false, multi={itemize, figure}, float=false]{standalone}

\input{../../../../preamble}

%\graphicspath{{img/}{Section/img/}{Chapter/Section/img/}{Part/Chapter/Section/img/}}

\title{ % create title page
\HRule % Horizontal Line added
\\[.4cm] % space
\begin{figure}[H] % included image
\begin{center} % centered horizontally
\includegraphics[scale=.45]{GIS_Logo_better.jpg}
\end{center}
\end{figure}
\Huge \bfseries TITLE GOES HERE % Title text
\HRule \\[.4cm] % Horizontal Line added
} % closing brace for title

\author{\Large Allegan County GIS \\ \Large www.allegancounty.org/gis} % defines author

\begin{document}% Document Begins

\ifstandalone
%\frontmatter % turns off chapter numbering and uses roman numerals for page numbers
\maketitle % creates title page and blank page after title page
\tableofcontents % creates TOC and blank page
\clearpage
%\mainmatter % turns on chapter numbering, resets page numbering and uses arabic numerals
\fi

\subsection{BLAH}
\medskip
\subsubsection{\Large BLAH \\ \small (BLAH).}

\medskip
\large BLAH \\ \Large BLAH \textbf{ (BLAH) (see fig.) }.
\begin{figure}[H] % included image
\centering
\includegraphics[scale=.30]{1.png}
```



```
\caption{BLAH}  
\end{figure}  
\clearpage  
  
\large BLAH (see fig.).  
\begin{figure}[H] % included image  
\centering  
\includegraphics[scale=.26]{2.png}  
\caption{BLAH}  
\end{figure}  
  
\end{document}
```