

Why use GIS for tree surveys?



1. What is GIS?

GIS stands for Geographical Information System is a way to capture, store, manipulate, analyze, manage and present different types of geographical data. ArcMap 10 is the latest program allowing people to overlay different layers of information on top of one another to make maps.

2. How is GIS different than CAD?

For the purpose of making maps of tree locations for an arborist report, GIS is no different than CAD. Both data management systems allow users to see spatial locations and measure distances to other landmarks. Generally if all the other project data is in CAD, we should work in CAD as well. But GIS is capable of much more than that; it can essentially answer any question. We commonly link field data to spatial data to answer:

- Where are areas of high concentrations of protected trees that may be good to avoid construction impacts?
- Where are areas of low tree suitability where construction can best be placed?

In addition GIS maps are generally used with aerial photographs (similar to Google Earth) allowing users to see a more complete view of the site and can be more visually appealing.

3. What is the difference between GPS and GIS?

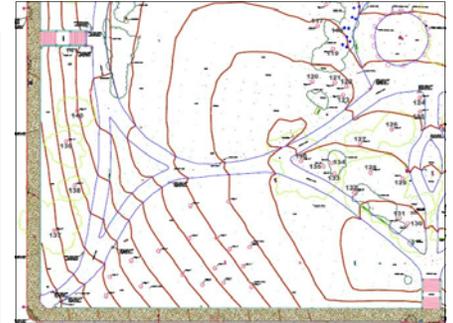
GPS (Global Positioning System) is a way of locating objects in the field. Technology is rapidly increasing, but struggles in areas of dense canopy coverage. For that reason, HortScience manually enters tree locations onto an aerial photograph on a GPS enabled tablet using GIS. This allows us to add the tree location, without standing right next to the tree and without expensive, heavy equipment that is often inaccurate.

4. Do I still need to survey my trees?

While this is a complicated answer depending on the goals of the project, the short answer is **YES**. If tree impacts of construction are relevant to the project, precise tree location is important.

5. How do we get started?

All HortScience projects can use GIS instead of CAD if you ask the consultant with which you are working. If you have specific GIS related questions, contact Ryan Gilpin (ryan@hortscience.com).



Typical CAD map.



Same map in GIS.



Showing protected trees (red).



Showing trees with low suitability (red), high is green and medium is yellow.