

Facility Management Viewer

Most GIS implementations start with a desire to build an information system that has a location-based or spatial perspective for a specific purpose. Utility departments want to know where their pipe infrastructure is, and desire to automate access to design, construction and maintenance information about that infrastructure as well as model the function of that infrastructure—water distribution, sanitary sewer collection, stormwater conveyance—for the purpose of assisting in managing the capacities and operations of the system. Highway departments want to similarly model their road infrastructure components for transportation planning, maintenance and operation purposes. Property tax collectors want to model and manage the revenue flows from the properties in their jurisdiction. And facility managers want to build information systems about the buildings that they operate—who is in what spaces, linkage to as-built drawings, equipment operating manuals, monitoring and management of operating costs, etc.



NIH Campus, Bethesda, Maryland

At some point there is often a recognition that the base data being developed to serve a specific function has a usefulness beyond the original purpose. If the organization that is responsible for the original data development and maintenance is willing to share that information, the value to a broader community of potential users becomes rapidly apparent. At the National Institutes of Health (NIH), this recognition has occurred. Data that was originally developed to support the requirements of the Division of Environmental Protection (DEP) within the Office of Research Facilities Development and Operations (ORF) has been recognized as being of significant value to the rest of ORF and to the NIH user community as a whole. One of the applications that has resulted from this recognition is the Facility Management Viewer (FMV).

FMV is a web-based viewer that provides authorized users with access to selected spatial datasets about all of the NIH campuses across the country. The current version of the viewer includes campus base map data (campus boundary, building outlines annotated with building number, roads, sidewalks, planting areas, digital orthophotography); campus utilities (manholes, fire hydrants, storm drains, steam lines, sanitary sewer, domestic water, chilled water, electricity); and building data (floor plans, room numbers, phones, emergency facility locations like eye wash stations and emergency showers). In addition, commonly available shared data like current weather information is included in the interface.

The goal is to make access to useful data available to a wider audience through the web-based viewer, and to make access to GIS datasets available to non-GIS users. In the development of the Viewer, a number of widgets were developed to simplify and enhance the user experience:



Bookmark

The bookmark widget allows the user to quickly navigate the map to one of the seven major NIH Campuses in the USA.

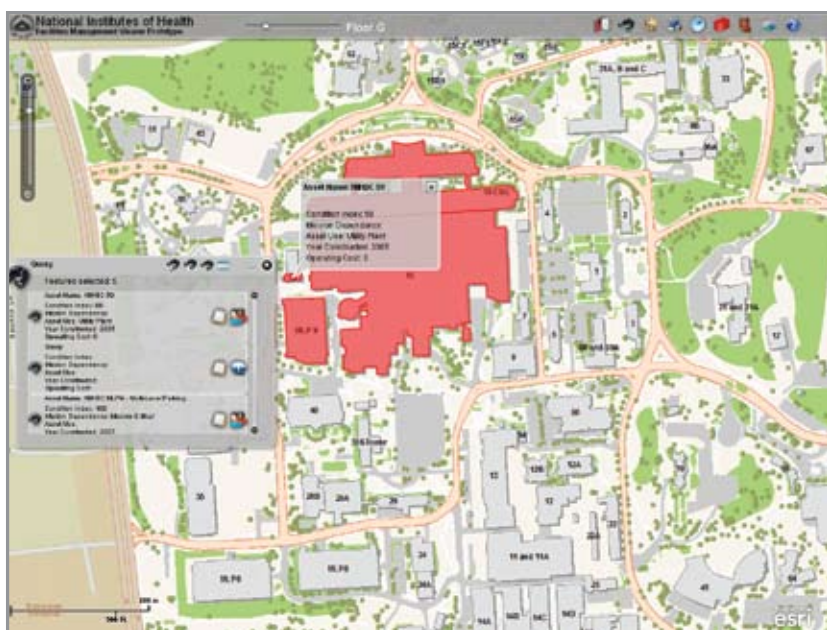
- Bethesda Campus
- Johns Hopkins Bayview Medical Center
- Rocky Mountain Labs
- Research Triangle Park
- NIH Animal Center

- Fort Detrick
- Montgomery County, MD Leased Space
- Contiguous USA

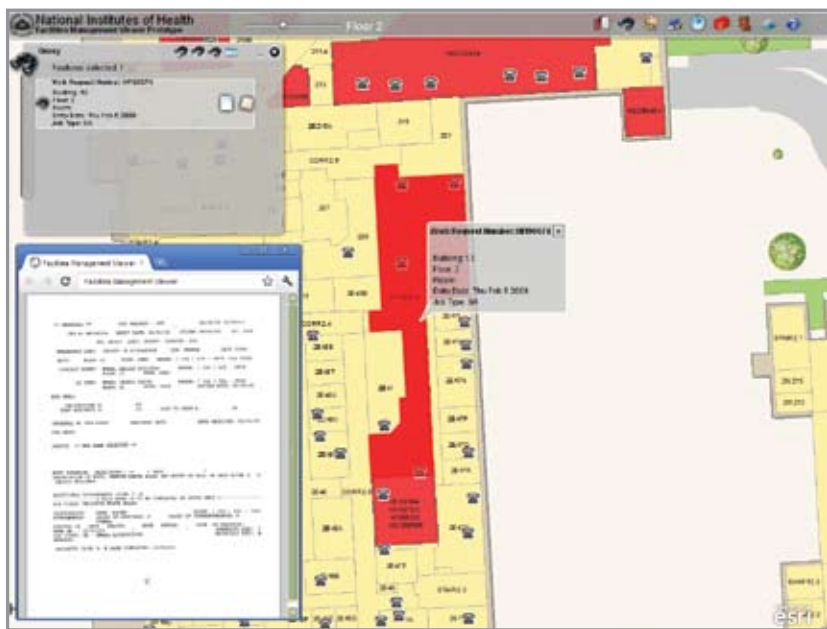
A floor slider controls the visibility of layers containing features that exist on different floors within a single building. Within a specific floor the rooms, phones, eye wash stations, and emergency showers are examples of layers that can be managed. The system is linked to a the campus work request management system, allowing users to see where within the campus/building environment work is being done or planned by ORF staff.

FMV allows the user to query by layer or by attribute, or to search for room information by specifying the building and floor from cascading lists. A site selection widget allows users to identify suitable areas for a specific purpose. The FMV also includes the ability to draw simple shapes, annotations and measurements that can be forwarded to an appropriate party, and to print out a hardcopy version of what is on the screen to share with others.

FMV is intended to be an evolutionary tool for NIH staff to begin to gain access to geospatial data maintained by a variety of departments without a need for learning GIS concepts. Offering this tool over the internet provides virtually universal access to this data to authorized users.



NIH Campus, showing building numbers and highlighting functional commonalities



Building interior space, showing work order locations