

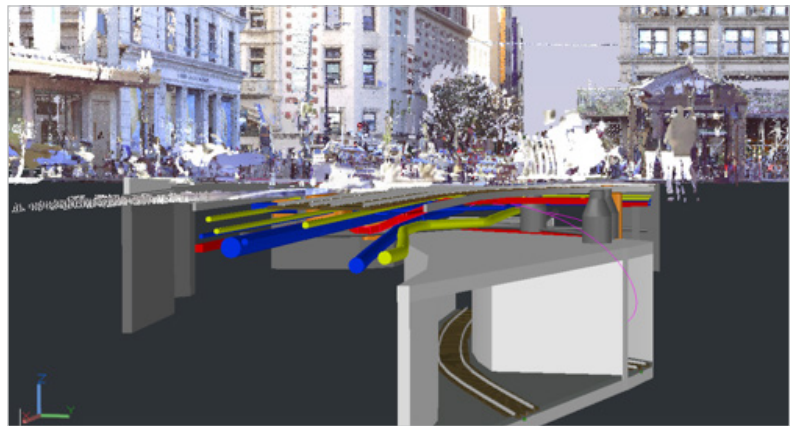
# Subsurface Utility Engineering & Mapping (SUE/SUM)



## SERVICES

- Subsurface Utility Engineering/ Mapping to ASCE 38-02 Standard of Care
- Compilation and Analysis of subsurface utility record plans and legacy documents
- Non-destructive- remote sensing subsurface investigation technologies
- Ground-Penetrating Radar (GPR) Surveys and other shallow geophysical investigations
- Electro-Magnetic line detection and tracing
- Utility Mapping in BIM/Revit and 2D/3D CAD

DGT Associates is a leader in the development and integration of technologies that advance surveying services. As one of the region's earliest adopters of subsurface utility mapping and engineering (SUM/SUE), we know the power of its application to further your goals. Our team offers the proven expertise required to fully understand the complexity of your project's below-ground environment and utility systems layout.



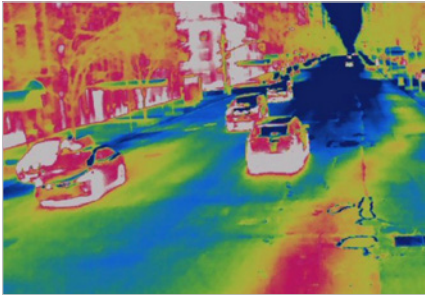
## SAFETY, ACCURACY & EFFICIENCY

A recent American Public Works Association (APWA) study estimated that a pipeline is damaged in the US every 60 seconds. Furthermore, the government-sponsored Common Ground Alliance (CGA) Dirt Report of 2014 estimated that utility-related accidents cost the US economy \$136 Billion in 2013. At DGT, we have invested in training, education, emerging technologies and resources to build a robust underground mapping team to help developers avoid costly mistakes. We help improve safety in development by performing thorough site investigations and delivering precise detail of both the above and below ground infrastructure.



Accurately knowing the intricacies of your project's subsurface environment is job one. The DGT Associates SUM/SUE team understands the complex impact of New England's centuries of development, and have the experience and expertise to meet its unique challenges. Above all, we know there can be no compromise when it comes to keeping your people safe and your project on time and on budget.

## Our SUE/SUM Services



### Remote Sensing Technologies

Most of the infrastructure used today has been buried for more than 100 years – well beyond its intended design life. DGT Associates works with strategic clients using unique remote sensing technologies to map the underground.



### 3D Imaging and Lidar Systems

DGT Associates is one of the leading firms adapting above-ground survey solutions for underground facility mapping. Incorporating best-practices for the above-ground survey services, DGT Associates provides unique solutions for 3D surveys.



### 2D and 3D Project Delivery formats

One of the greatest challenges for subsurface utility mapping programs is providing usable, easy-to-read final delivery formats for strategic clients. DGT Associates delivery formats include complex 3D models and traditional 2D CAD plans.



### Public and Private Subsurface Utility Mapping Projects

As one of the early adopters of subsurface utility mapping, DGT has experience on numerous types of projects ranging from higher education, hospitals, private property, air and sea ports, manufacturing and transportation projects.



### New and Emerging Technologies

In recent years, the use of drones has emerged as a cost effective method for locating and mapping above and below ground. DGT uses drones on select projects to capture high-resolution surface imagery and drone-mounted infra-red systems to confirm the location of pipes and underground leaks.



### Building a Standard of Care

Defining a standard of care when mapping the underground is paramount. DGT has adopted the internationally-recognized American Standard ASCE 38-02 for all SUM projects. By defining a standard of care, DGT can help clients manage and transfer risks associated with underground facilities.

For more information on DGT's SUE/SUM Services, please contact:

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