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Developing a New Commercial Site

By Ludgate Engineering Corp.

As Professional Engineers and Surveyors we often are the preparer of "Land Development Plans" for an owner to move their business to a new site, whether to relocate a business or enlarge the development of a present site. Forty years ago, when Bob Ludgate Senior founded our firm, "land development" was pretty straight forward.

We'd start with a boundary survey of the lot and add a topographic survey to show significant ground features and contours. We'd "spot" the proposed building, lay out the parking, define how to access the highway, and figure out if we could get a sewer hook-up or if we needed to secure a permit for on-lot sewage.

Now Thomas Ludgate is in charge. The basics of "land development" remain, but every element has become more convoluted. While the boundary survey requirements are much the same, the regulators require much more topographic detail. Some of this new detail is needed for stormwater management; some is needed to analyze how new development might affect the neighborhoods; some, such as locating every tree and bush, is related to more stringent zoning rules.

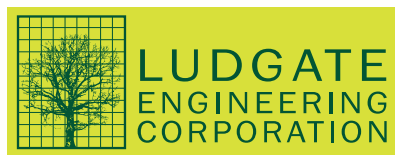
More information about the building usually is required. Lighting, façade pictures, and access for deliveries were not general requirements in the "old days". Parking layout must accommodate specified handicapped spaces, auto and truck

turning paths, and especially careful drainage analysis. Sewer connections have not changed much, but on-lot sewage disposal has many, many new options which must be understood in order to offer our clients the best cost-effective solution.

PADOT did require a permit for a new roadway/driveway connection back then, but these often took only a 15-minute meeting with the county permit technician. Today, the "planning and engineering" for these driveway permits (HOP) often is the most costly part of the land development process.

The "new wrinkles" in "land development planning" are sophisticated — "Stormwater Management Plans," along with complex "Erosion Control Plans" and multi-level municipal planning reviews. Fortunately, Thomas Ludgate is up to date on these "new wrinkles." He is both a Professional Land Surveyor and a Professional Engineer, but he probably deserves a new kind of professional recognition. Perhaps we could call it "Professional Land Development Process Guru."

Ludgate Engineering Corporation is located at 10 Vanguard Drive, Suite 90, Reading, PA 19606; 610.404.7330; www.ludgate-eng.com.



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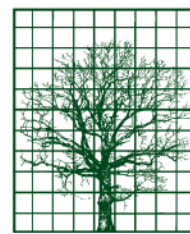
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Carroll Engineering Corporation (CEC) has been providing quality engineering and surveying services for over 45 years to clients throughout Pennsylvania and New Jersey. The company provides highly recognized professional services to a wide range of authority, municipal, public and private clients in the region. CEC currently has a staff of approximately 90 professionals divided into eight interrelated departments, four of which represent specific engineering functions being Municipal / Authority, Planning & Site Development, Structural, and Traffic & Transportation Services. The remaining four departments include Surveying, Construction Inspection, GIS / Computer Aided Drafting & Design, (CADD), and Administrative, all of

which are support departments to our engineering services. Our corporate office is in Warrington, Bucks County. We also have offices in Malvern, Chester County, King of Prussia, Montgomery County and Hillsborough, Somerset County, New Jersey.

CEC has a staff of professionals with state or national registrations and certifications in engineering, planning, surveying, and geology. In addition to professional registrations, many of our staff have supplemental certificates in specialties such as sewage enforcement, hazardous material removal, bridge inspections, water and wastewater operation, etc.

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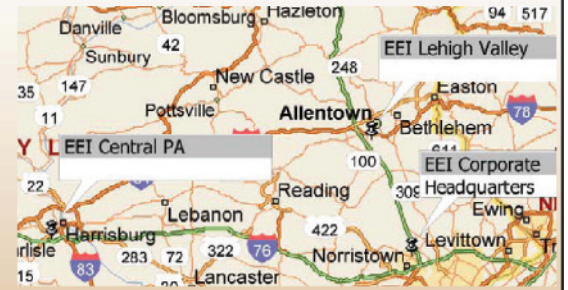
For additional information, please call 610.277.0880 and visit www.earthengineering.com.



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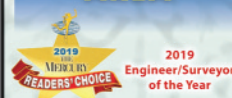
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