

If you are planning to dig in Orange County, you have probably heard the rule: call 811 before you dig. That is absolutely correct, and in California it is not optional. But once the paint and flags are on the ground, many homeowners and contractors look at their jobsite and think, "Is that really everything in the ground?" Often, it is not.

I have walked onto plenty of sites in Orange County where 811 did its job perfectly and it still was not safe to start excavation. The missing piece was private utility locating.

Understanding when the free 811 service is enough, and when you need a private locator, is where people get into trouble. Let's walk through how the system actually works in California, what 811 does and does not cover, and how to decide whether to bring in a private utility locating company before you put a bucket or auger in the soil.

What utility locating actually is

Utility locating is the practice of finding and marking underground lines and structures before digging. That includes anything from a high-pressure gas main under a street to a single electrical conduit feeding a backyard pool pump.

A utility locator's job is to figure out what is buried where, identify its approximate route and depth, and mark it on the surface with paint or flags so that excavators can avoid it or expose it safely.

In practical terms, that means:

First, reading any available records or maps.

Second, using locating equipment in the field. Third, translating that information into accurate markings that make sense to the people doing the work.

Some days that is straightforward, such as a simple residential gas and electric locate for a tree planting. Other days it is a maze of overlapping utilities in a public street or a 1960s apartment complex that has been remodeled five times.

811 in California: what it does, and what the law requires

California has a "call before you dig" law. If you plan to disturb the soil, you are required to notify the regional one-call center. In Orange County, that is DigAlert, reached by dialing 811.

A few key points that matter:

- Is calling 811 the law in California? Yes. California Government Code section 4216 requires excavators, including homeowners using power equipment, to notify 811 before digging.
- Is it illegal to dig without calling 811 in California? If you excavate without an 811 ticket and damage a utility, you can be held liable for repair costs, civil penalties, and any resulting damage or injury. The fact that you "didn't know" is not a defense.
- Who do I call before digging in Orange County? Always start with 811 / DigAlert. They notify the member utilities that serve your area.
- How far in advance do you need to call before digging? In California, you must call at least 2 working days before digging, not counting the day you call. Utilities then have that window to mark their lines.

One important point for homeowners: 811 is free. When people ask “Who pays for utility locating?” in this context, the answer is that member utilities fund the one-call system. There is no direct charge to you to have 811 send locators for their public facilities.

So, is utility locating free in California? Public utility locating through 811 is free. Private utility locating on your property typically is not, and that distinction is where confusion starts.

Public vs private utility locating: where 811 stops

The main question behind this entire topic is simple: what is the difference between public and private utility locating?

Public utility locating is what 811 coordinates. Utility companies send their own locators or contractors to mark lines that they own and maintain, up to their point of responsibility.

That usually means:

- Electric: to the meter or service disconnect.
- Gas: to the outlet side of the gas meter.
- Water: to the water meter or curb stop.
- Sewer: typically main lines in the street, not your lateral past the property line.
- Communications and fiber: to the demarcation point, often the side of the building or a handhole.

Private utility locating covers everything past those handoff points, plus any entirely private systems. These lines are owned by the property owner or an association, not the utility company.

Common examples on Orange County properties include:

Irrigation mainlines and control wires, often shallow and unmarked.

Gas lines to outdoor kitchens, pool heaters, or fire pits. Electrical conduits to detached garages, ADUs, backyard offices, or entry gates. Sewer laterals from the building to the main, and private sewer networks in complexes. Private water systems in large campuses, HOA greenbelts, or industrial yards. Low-voltage lines for lighting, security, intercoms, and data.

When people ask, “Does 811 locate private lines?” the accurate answer is no. 811 notifies utilities of your dig. Those utilities then mark only what is in their ownership. Anything private on your side of the meter, or that never belonged to a public utility at all, will not be marked.

That is the answer to “What does 811 not locate?” It does not cover your private infrastructure.

What utility locators actually do in the field

Whether they work for a public utility or a private locating company, a locator’s trade is part detective, part technician.

“How does utility locating work?” comes up often. In practice, most public and private locators use a mix of methods.

They typically start with electromagnetic (EM) locating. Here is how it works:

A transmitter is connected to a conductive utility, such as a metal pipe or a tracer wire, or it induces a signal from the surface.

That signal travels along the line underground. A handheld receiver detects the field on the surface, letting the locator trace the path of the line.

This approach is very effective for metallic utilities with continuous paths.

“What equipment do utility locators use?” Besides EM locators, a professional crew may bring:

Ground penetrating radar (GPR) units on carts.

Sondes, which are small transmitters pushed through pipes with rods or on camera heads. CCTV sewer cameras to inspect and track sewer lines. Magnetometers for ferrous objects such as tanks or manhole covers. RF pipe locators, clamp-on transmitters, and test leads for various hookup methods.

“How deep can utility locators detect?” Under good conditions, EM locators can pick up signals 10 to 15 feet deep, sometimes more. GPR can also reach similar depths, but the realistic working depth in Orange County clays and fill is often in the 6 to 10 foot range. In dense urban corridors or reinforced concrete, effective depth can be less.

Conditions that affect depth and accuracy include soil moisture, fill material, utility size, crowding of multiple lines, and the presence or absence of tracer wires.

“Can utility locators find plastic pipes?” That depends. Plastic does not conduct electricity, so EM locators cannot find it directly unless there is a tracer wire or a cable inside the pipe. For unmarked plastic, technicians may:

Use GPR to identify pipe signatures in the soil.

Insert a sonde into the pipe via a cleanout or access point and trace the sonde. In some cases, run a fish tape with an attached wire that can then be energized.

So, a good locator can often find plastic pipes, but not with the same ease or certainty as metal lines.

Ground penetrating radar in plain language

There is a lot of curiosity around GPR, and also a fair amount of misunderstanding. “What is ground penetrating radar used for?” and “How accurate is ground penetrating radar?” are common questions.

GPR sends short radio pulses into the ground and measures the reflections from changes in material or density. A GPR display shows these reflections as hyperbolas and bands. An experienced operator interprets those patterns as utilities, voids, or other features.

In utility work, GPR is useful to:

Find non-metallic utilities where EM methods fall short.

Confirm or refine locations found with other methods in congested areas. Locate unknown structures like old foundations, tanks, or [Orange County vacuum excavation Bess Testlab Inc. \(Bess Utility Solutions\)](#) large abandoned pipes. Support subsurface utility engineering (SUE) by mapping multiple features in one scan.

“How accurate is ground penetrating radar?” Under good conditions, horizontal accuracy to within 6 to 12 inches is achievable, sometimes better. Vertical (depth) accuracy is usually within 10 to 20 percent of depth, depending on soil conditions and calibration. In messy, heterogeneous soils or where there is heavy reinforcement, accuracy can drop and some voids or small lines may be invisible.

This is why responsible locators always remind clients that GPR is not an X-ray. It is a powerful tool, but not a guarantee that nothing is below. For critical work in Orange County streets or on high-risk sites, we pair GPR and EM locating with potholing (vacuum excavation) to physically expose key utilities.

What the paint and flags actually mean

If you have ever walked onto a jobsite and seen a rainbow of lines and symbols on the ground, it helps to know what you are looking at.

The color system for surface utility marking is standardized:

Color	Utility type	Common examples
Red	Electric power	Overhead and underground electric, lighting feeds
Orange	Communications	Phone, fiber, cable TV, data lines
Yellow	Gas, oil, steam, flammables	Natural gas, propane, petroleum lines
Blue	Potable water	Domestic water mains and services
Green	Sewer and drain	Sanitary sewer, storm drains
Purple	Reclaimed water, irrigation	Recycled water lines, purple pipe irrigation
White	Proposed excavation	Where you or your contractor plan to dig
Pink	Temporary survey markings	Survey control, reference points

“What does red paint mean on the ground?” That marks electric power lines. Those are not lines you want to find with a backhoe bucket.

“What do orange utility flags mean?” Those are typically communications: fiber optic cable, telephone, or cable TV. Cutting those can be surprisingly expensive. “What is the white paint on the ground for?” White paint is used by the excavator to outline the proposed excavation area before requesting a locate. In California, you are expected to “white line” the work area so utilities know where to focus their locating.

When people ask “What do utility marking colors mean?” this color code is the reference we use in the field.

How accurate is utility locating in practice?

No competent locator will claim perfection. Real-world utility locating is about reducing risk to an acceptable level, not promising that nothing exists underground.

Under typical Orange County conditions, a careful locate with modern EM and GPR equipment can often place a utility’s horizontal location within roughly 6 to 18 inches. Depth estimates are usually rougher, especially for EM methods that infer depth from signal strength.

Factors that reduce accuracy include:

Multiple utilities running near or on top of each other.

Broken tracer wires on plastic utilities, which are quite common in older developments. Unknown repairs or reroutes that were never recorded. Backfill variability, such as trenches backfilled with different material than native soil. Interference from nearby power lines, fences, or reinforced concrete.

This is one reason subsurface utility engineering has become important on larger projects in Orange County. SUE is a structured process that combines records research, survey, quality-level utility locating, and test holes to build a much more reliable underground map before design and construction.

ORANGE COUNTY UTILITY POTHOLING

BESS
UTILITY SOLUTIONS



Bess Utility Solutions

2463 Tripaldi Way, Hayward, CA 94545
(408) 988-0101
<https://www.bessutilitysolutions.com/vacuum-excavation-potholing/>



So, do you need a private utility locator if you already called 811?

Here is the honest answer from years of seeing projects go right and wrong:

If all you have are public utilities in the street or right of way, and your work is limited to shallow landscaping on your own property, 811 may be enough.

But if you are doing anything deeper or more intrusive on private property, especially in a built-up area, there is a strong chance that 811's markings do not tell the whole story.

Common Orange County scenarios where a private utility locator is strongly recommended:

Installing a new pool or spa, with excavation several feet deep across a backyard crisscrossed with irrigation lines, gas branches, and electrical conduits.

Cutting or trenching through a driveway, patio, or front yard to run new services to an ADU. Remodeling commercial spaces in a strip center or industrial complex with private shared utilities. Working at schools, hospitals, or campuses where there is extensive private fiber, security, and control wiring. Any work near a slope or retaining wall that has been rebuilt, where utilities may have been rerouted or buried in fill.

Here is a simple way to think about it. If you can honestly say that every line you might hit is owned by a public utility and clearly marked by 811, you probably do not need a private locator. As soon as you suspect there are private lines that matter to you, the 811 marks are the starting point, not the finish line.

A quick test: when free 811 is enough vs when it is not

To make the decision more concrete, use this short checklist. If any of these conditions apply, strongly consider hiring a private utility locating company in Orange County.

- You know or suspect there are private lines after the meter, such as gas to a pool heater or hard-wired yard lighting.
- Your work involves deep excavation, trenching, or boring on private property, not just shallow planting.
- The property is older, heavily remodeled, or part of an HOA, school, church, or commercial complex.
- You see irrigation boxes, backflow devices, or private electrical panels that 811 did not mark around.
- You would lose significant money or use of the property if a private line were cut, even if it is not “dangerous” in the same way as gas or high-voltage.

If you answer yes to one or more of these, the cost of private locating is usually small compared with the cost and downtime from hitting an unmarked line.

How private utility locating works on your property

A private utility locator in Orange County approaches your site in a similar way to a public locator, but with a broader scope and more flexibility in tools.

Typically, the technician will:

Review any plans, as-builts, or site information you have. Even old, messy plans are better than nothing.

Walk the site to look for visual clues: meters, valves, boxes, light poles, cleanouts, backflow preventers. Use EM locating on all accessible conductive utilities and tracer wires, both public and private. Deploy GPR in areas where EM methods are limited or where non-metallic utilities are suspected. If access points exist, run sondes or cameras into sewer lines and some drains to trace their route. Mark utilities on the ground with color-coded paint and flags, often including notes on depth and type.

“How long does utility locating take?” For a typical single-family home in Orange County, a private locate might take between 90 minutes and half a day, depending on complexity. Larger commercial or industrial sites can take a full day or more. Scheduling is usually flexible: many companies can respond within 1 to 3 business days, sometimes sooner for rush work.

For multi-phase construction or SUE projects, locating may be tied into survey work and revisited at several stages.

Costs: how much does private utility locating cost in Orange County?

There is no one price, but you can work with realistic ranges.

When people ask “How much does utility locating cost in Orange County?” or “How much does private utility locating cost?” they are usually thinking of a single visit to mark a residential or small commercial site.

As of recent years, typical pricing in Orange County for reputable companies has looked like this:

Trip minimums often fall in the 350 to 600 dollar range for basic residential work, depending on travel distance and scope.

Hourly rates for experienced technicians with EM and GPR equipment often run 150 to 275 dollars per hour, with a minimum callout. Half-day and full-day rates for larger sites may be quoted at a flat rate, often between about 800 and 2,000 dollars depending on complexity and whether SUE-level documentation is required. Specialized

services such as detailed CAD mapping, utility surveys, or engineered SUE reports add cost beyond basic field markings.

That may sound expensive until you look at the other side of the ledger. “How much does it cost to repair a damaged utility line?” is not a pleasant question to answer on a live job.

For context, hitting a fiber optic cable in a business park can easily cost tens of thousands in emergency repair and service disruption claims. A damaged gas service can shut down a street, draw in the fire department, and bring regulatory scrutiny. Even a single cut irrigation main can flood a yard or slope and force you to rebuild landscaping and walls.

Compared with that, a few hundred or a couple thousand dollars for a thorough locate is usually a rational insurance policy.

Who pays for private utility locating? Unlike 811, the property owner, general contractor, or excavator pays. On professional jobs, that cost is usually built into the project budget.

Locating specific underground utilities

The individual “how do you locate...” questions come up all the time. Here is how it works in practice, with the caveat that site conditions always matter.

“How do you locate a buried water line?” If it is metallic or has a tracer wire, EM locate is the first choice. At a meter or valve, the locator can connect a transmitter and trace the line. For plastic without tracer wire, GPR and experienced pattern recognition are key.

“How do you locate a buried gas line?” Again, most service lines have tracer wires. Locators connect to the accessible portion near the meter, then trace outward. Accuracy is generally good, but laterals to features like grills can be tricky if they lack tracer wire or good access.

“How do you locate a sewer line?” Sewer laterals are often non-metallic. Locators insert a camera with a sonde through a cleanout, then trace the sonde. Alternatively, they push a traceable rod or fish tape into the sewer and energize it. GPR helps where access points are limited.

“Can you locate a septic tank?” Yes, often. Septic tanks and leach fields show up well on GPR due to the difference in density and moisture compared with surrounding soil. Probing and looking for vent pipes or inspection ports are also part of the process.

“How do you find a buried electrical line or fiber optic cable?” For electrical, EM methods with direct connection or induction along the line are standard. Fiber is often in a metallic sheath or with a tracer wire, which can be energized and traced. In some older or improvised systems, there may be no traceable component, in which case GPR and careful interpretation are used.

Permits, liability, and what happens if things go wrong

“Do I need a permit to dig in Orange County?” That depends entirely on the type of work and jurisdiction. Shallow hand digging for small plants on your own property rarely requires a permit. But trenching, retaining walls, pools, foundations, driveway replacements, and work in the public right of way generally do.

For private property in cities like Irvine, Anaheim, Santa Ana, Huntington Beach, and others, you contact the city building or public works department. For unincorporated areas, you deal with OC Public Works. Permits deal with code and safety, but they do not replace your obligation to call 811 and locate utilities.

“What happens if I dig without calling 811?” At best, nothing happens and you get lucky. At worst, you hit a line. If you damage a utility without having an 811 ticket, you are very likely liable for all repair costs and may face fines. If someone is injured, or if there is a gas incident or major outage, legal and financial exposure can escalate rapidly.

“Who is liable if I hit a utility line?” If you are the excavator, you carry primary responsibility to dig safely. That means calling 811, respecting the tolerance zones around marked utilities, exposing lines by hand or vacuum within those zones, and taking reasonable precautions. If a locator clearly mis-marked a line, there may be shared or shifted liability, but that is a legal fight you would rather not have.

“What happens if you cut a utility line?” The immediate priority is safety:

Stop work and move people away from the hazard.

For a gas hit, call 911 and the gas utility from a safe distance. For electric, assume everything is energized and keep people clear until the utility responds. For water or sewer, shut off local valves if you can do so safely.

After that, expect a repair crew, incident reports, and a bill.

The key point: hiring a private locator does not absolve you of responsibility, but it significantly reduces the chance that you ever face that scenario.

Can you locate your own underground utilities?

DIY locating is very tempting. There are consumer-grade locators for rent and smartphone apps that promise to help find utilities. The real question is whether that is a smart way to manage risk.

“Can I locate my own underground utilities?” Technically, you can try, but you should understand the limitations.

Inexperienced users often misinterpret signals, fail to recognize interference, or overlook key utilities because they do not know where to look or how the systems are typically routed. Private water or gas branches, irrigation control wires, or older abandoned lines can be very easy to miss.

“How do I find underground utilities on my property?” The safe approach in Orange County is:

Call 811 so that all public utilities mark their assets.

Walk the property and note all obvious indicators: meters, valves, boxes, cleanouts, backflow preventers, poles, and visible conduits. If the work is shallow and you will hand dig with a shovel, you may accept limited risk in some areas. For anything beyond that, especially with machinery, bring in a professional locator.

“Should homeowners hire a utility locator?” If you are installing a pool, major landscaping, new gas or electrical service, or doing significant grading, hiring a private locator is a sensible investment. For small, shallow projects, it may not be necessary once 811 has done its part, but that should be a conscious decision, not a guess.

Choosing a utility locating company in Orange County

People often ask, “What is the best utility locating company in Orange County?” The better question is how to tell a competent, reliable firm from a casual side gig.

Use this short list of questions when you call around:

- Do they provide both EM locating and GPR, and will they bring both to your site if needed?
- Are their technicians experienced in your type of project, such as residential pools, commercial remodels, or SUE for design?

- Will they explain which utilities they can and cannot reliably locate on your property?
- Do they provide a written scope of work and limitations, not just a flat “we find everything” promise?
- Can they integrate with your surveyor or engineer if you need mapped deliverables, not just paint on the ground?

A good locator will freely tell you what they cannot do, not just what they can. That honesty is more valuable than a rock-bottom quote.

Calling 811 before you dig in Orange County is non-negotiable and, in many cases, fully adequate for small, shallow projects. But 811 is designed to protect public utilities, not the full life-support system under your particular property.

When you have private lines after the meter, deeper excavation, complex properties, or a low tolerance for outages and surprises, a private utility locator is not a luxury. It is simply part of doing the job safely and professionally.

Bess Testlab Inc. (Bess Utility Solutions)
2463 Tripaldi Way, Hayward, CA 94545
4089880101