

If you plan to dig in Orange County, you are planning to manage risk, whether you realize it or not. Hitting a buried gas main, fiber optic cable, or electrical line is not just inconvenient. It can injure people, shut down a street or a business, and trigger five-figure repair bills and fines.

That is why utility locating is not a nice extra before excavation. It is a core safety step, on par with shoring a trench or shutting off power before opening a panel. The challenge is that not all utility locating services are created equal, and the gap between an average locator and a disciplined, well equipped one can be the difference between a clean job and a disaster.

This guide walks through how utility locating works, what 811 covers and what it does not, realistic cost ranges in Orange County, and the specific questions that separate a competent locator from a risky one.

First things first: what utility locating actually is

At its simplest, utility locating is the process of finding and marking buried infrastructure before you dig. That includes electric lines, gas lines, water and sewer pipes, communications and fiber cable, and in some cases things like storm drains, irrigation lines, and private laterals.

Professionals use instruments to trace the path of these utilities and then mark them on the ground with paint and flags so everyone on site knows where it is safe to excavate.

When people ask, "What does a utility locator do?" they are usually imagining someone walking around with a wand, waving it over the dirt. There is a lot more to it. A good locator does four things consistently:

1. Gathers information: as-builts, utility maps, survey data, past work on the site, and your own project plans.
2. Chooses and configures the right equipment based on soil type, depth, and utility materials.
3. Interprets noisy signals, conflicts between records and reality, and ambiguous readings.
4. Communicates limits and uncertainty, not just neat lines of paint.

In other words, it is part science, part craft. The tools matter, but judgment matters more.

Public vs private locating: you almost always need both

A lot of confusion starts with 811. In California, everyone is told "Call 811 before you dig." That is correct, but it is only part of the story.

Is calling 811 the law in California?

Yes. Under California Government Code 4216, anyone planning to excavate must notify the regional notification center, which is DigAlert in Southern California, reachable by calling 811. This applies to contractors, businesses, and homeowners. If you dig without calling 811 in California, you can be found negligent if you hit a line, and you may face penalties or be stuck with the full cost of repairs.

Is utility locating free in California?

The 811 public locate is free to you. Utility owners pay to be members of the notification system and to send locators for their own facilities. That covers public utility locating, not everything on your property.

What does 811 not locate?

This catches many people off guard. 811 coordinates public utility owners coming out to mark lines they own and maintain. Typically, that means:

- From the street or utility easement up to your meter or service point.

What 811 does not locate usually includes:

- Private lines on your side of the meter (house service lines, most private laterals).
- Power and data to detached structures such as sheds, guest houses, pool equipment, or sign lighting.
- Private gas lines feeding outdoor kitchens, fire pits, or secondary buildings.
- Irrigation lines, landscape lighting, and many campus, HOA, or business park internal systems.
- Abandoned utilities that are no longer in a utility owner's active records.

That is why the question "Does 811 locate private lines?" is almost always answered: no, not as a rule. There are occasional exceptions with certain facilities, but you should plan as if every line on private property is your responsibility to locate.

What is the difference between public and private utility locating?

Public utility locating is what the utility owners perform in response to an 811 ticket. Private utility locating is when you hire a private company to locate:



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- Any facilities that the public utilities will not mark.
- Conflicting or unknown utilities when records are poor.
- Critical infrastructure on complex sites such as hospitals, campuses, refineries, or major commercial properties.

If you are asking yourself, "Do I need a private utility locator?" the answer depends on the project:

- A small, shallow planting bed in a residential front yard: 811 alone is often enough if you stay far from known service lines.
- A pool, room addition, new footing, deep trench, or heavy equipment on site: you should strongly consider private utility locating.
- Any commercial work, especially in parking lots and near existing buildings: hiring a private locator is standard practice.

Why utility locating matters so much before excavation

From a risk standpoint, there are three big reasons to take underground utility locating seriously.

First, safety. Striking a buried gas line or primary electrical feeder is one of the fastest ways to turn an ordinary dig into a life-threatening emergency. Even striking a communication or fiber optic cable can introduce physical hazards if crews start troubleshooting in a trench with unknowns.

Second, liability. If you hit a line because you skipped 811, ignored marks, or worked outside a reasonable interpretation of the locate, you can be liable for:

- The cost to repair the damaged utility line.
- Associated property damage.
- Revenue loss and claims from affected third parties in serious cases.

Contractors sometimes ask, “Who is liable if I hit a utility line?” In practice, lawyers and insurers sort that out by looking at whether you called 811, whether the marks were accurate, whether you used reasonable care when digging, and whether you hired appropriate private services where 811 coverage clearly did not apply.

Third, schedule. Repairing a damaged line, waiting for crews, dealing with inspectors, and documenting the incident can freeze your site for days. On a tight Orange County schedule, that can cripple a project.

How utility locating works in the field

People also ask how utility locating works in practical terms. The main methods fall into three categories: electromagnetic locating, ground penetrating radar, and non-instrument techniques such as records review and visual inspection.

Electromagnetic (EM) locating

EM locating is the workhorse for conductive utilities, such as metallic pipes and cables with metallic conductors.

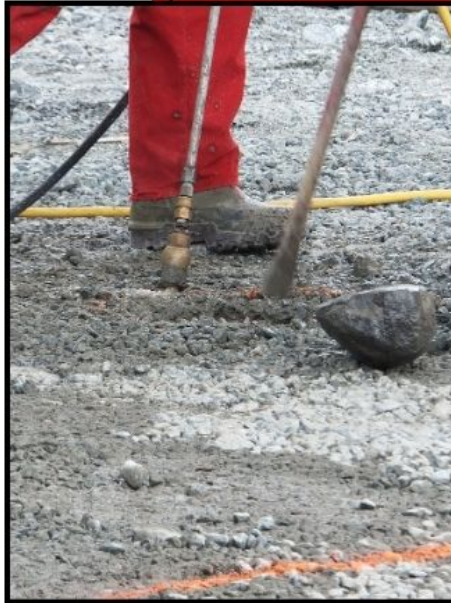
A transmitter induces a signal onto a utility line, either by direct connection, using a clamp, or by induction from the surface. A receiver then picks up that signal and allows the locator to trace the path and often estimate depth.

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Typical questions here include, "How deep can utility locators detect?" With EM, depth ranges depend on soil conditions, line characteristics, and equipment, but on many Orange County sites you can expect workable depths of 8 to 15 feet. Very deep, poorly conductive, or congested areas reduce accuracy.

Ground penetrating radar (GPR)

Where EM struggles, GPR often helps. GPR sends radar pulses into the ground, then interprets reflections from subsurface changes in material.

So what is ground penetrating radar used for in utility locating? Mainly to:

- Detect non-conductive utilities such as PVC water lines, some sewer lines, and plastic conduits.
- Cross-check EM results.
- Identify unknown objects like old foundations, tanks, or voids.

Clients often ask, "Can utility locators find plastic pipes?" or "How accurate is ground penetrating radar?" The honest answer: yes, they often can detect plastic pipes, but not always, and GPR is not magic. In dry, sandy California soils, GPR can perform well down to 8 to 10 feet, sometimes a bit deeper. In clayey or saturated ground, penetration and clarity drop sharply.

GPR accuracy depends heavily on the operator's skill in interpreting data and correlating it with site information. A high-end GPR unit in untrained hands is a very expensive guess.

Records, visual clues, and judgment

The best locators do not rely only on instruments. They combine:

- Utility maps and as-built plans.
- Site features like valve boxes, meters, pedestals, transformers, manholes, and cleanouts.
- Knowledge of local construction practices and codes.

For example, if you ask, “How do you locate a buried water line?” a careful locator will look for the water meter, house entry point, hose bibs, and visible repairs as clues, then use EM or GPR to fill in the path. The same approach applies when you ask how to find a buried electrical line, gas line, or fiber optic cable: start with what you know, verify with instruments, and check whether the path makes sense for when and how the property was built.

How accurate is utility locating, really?

A realistic way to think about accuracy is by tolerance zones. Utilities are rarely exactly where old plans say they are, and even the best locator cannot always hit a single-inch bulls-eye for depth and horizontal position.

In practice, a skilled locator with good equipment on a typical Orange County site often achieves horizontal accuracy within 1 to 2 feet of the utility centerline, and depth estimates usually in the same range. Certain conditions make that worse: congested corridors, unknown splices, non-metallic pipes without tracer wire, and soils that interfere with GPR.

On most tickets, you should respect a tolerance zone on either side of the mark and hand dig or pothole to confirm exact location and depth before heavy excavation. Anyone who claims, “We are always accurate to the inch” either has very limited experience or is selling you something.

Understanding utility marking colors on the ground

If you drive through Orange County and look down, you will see a rainbow of paint and flags. Those markings follow a national color code that your crew should know cold, especially when someone asks, “What do the utility marking colors mean?”

Here is the key:

- Red indicates electric power lines, cables, conduit, and lighting. If you see red paint or flags, treat the area with extreme caution.
- Orange utility flags or paint mark communications, alarm or signal lines, cable TV, and fiber optic cable.
- Yellow marks gas, oil, steam, petroleum, or other gaseous materials. Any yellow mark deserves a slow, careful approach.
- Blue shows potable water lines.
- Green is for sewer and drain lines.
- Purple marks reclaimed water, irrigation, and slurry lines.
- Pink is used for temporary survey markings.
- White paint on the ground shows the area of proposed excavation, drawn by the excavator to show where work will happen.

When someone asks, “What does red paint mean on the ground?” or “What do orange utility flags mean?” they are really asking if their planned trench crosses critical infrastructure. If your crew understands the code, they will catch conflicts earlier and ask better questions before digging.

Subsurface utility engineering for complex projects

On major infrastructure or commercial projects, you will often hear about subsurface utility engineering, or SUE. This is a more formal process that integrates utility locating into design and construction, using standardized quality levels such as QL-D through QL-A.



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At the higher QL-A level, utilities are not only located with instruments, but physically exposed by vacuum excavation to confirm precise depth and position. That data is surveyed and added to project plans.

Strong SUE work reduces design conflicts, change orders, and field surprises. In dense parts of Orange County, especially near older commercial corridors, SUE can be the difference between a project that flows and one that spends months chasing unexpected utilities.

Cost of utility locating in Orange County

Everyone planning a project eventually asks, “How much does utility locating cost in Orange County?” and more specifically, “How much does private utility locating cost?”

Exact numbers vary, but there are patterns.

For basic residential private locating, such as checking a yard before a pool or room addition, expect something in the range of a few hundred dollars for a short visit. For example, a locator may charge a minimum fee that covers up to two hours on site, then an hourly rate beyond that.

For commercial and industrial projects, costs tend to be higher and based on:

- Site size and complexity.
- Number of utilities and anticipated congestion.
- Need for GPR, vacuum potholing, or SUE-level documentation.

- Travel time, access constraints, and safety requirements.

On many Orange County commercial jobs, it is common to see private locating budgets in the low thousands for moderate sites, and significantly higher for large campuses or phased work.

When you compare those numbers to “How much does it cost to repair a damaged utility line?” the locating looks cheap. A simple copper telecom line in a street can cost several thousand dollars to repair. A major fiber optic line, large gas main, or primary electrical feeder can hit five or even six figures when you factor in emergency response, specialized crews, and business interruption.

Who pays for utility locating depends on the scope. Public locates through 811 are funded by the utility owners. Private locating is typically paid by whoever is responsible for the excavation, often rolled into a contractor’s budget or a project’s preconstruction costs.

Timing: how long locating takes and when to call

In California, the law requires that you call 811 at least two working days before you dig. Many contractors aim for three or four days to build in a cushion, especially around holidays.

Tickets have a life span. If you are delayed beyond that window, you will need to refresh your ticket and, in many cases, get the site re-marked. Scraping off paint with a skid steer and then continuing to dig on the assumption that “It was marked once” is asking for trouble.

As for “How long does utility locating take?” for private services, plan for:

- Simple residential work: perhaps 1 to 3 hours on site.
- Larger commercial sites: anywhere from half a day to several days, depending on scope and whether vacuum excavation or SUE-level work is included.

The important thing is to bring your locator into the planning process early. If you wait until the day before the excavator shows up, you may not get the level of service you need, and you may force rushed work.

Can you locate your own underground utilities?

Technically, you can buy or rent locating equipment and try to locate your own lines. In practice, for anything beyond trivial work, this is risky.

Inexperienced users often:

- Misinterpret signals from parallel or overlapping utilities.
- Miss non-metallic lines such as PVC sewer or plastic gas pipe without tracer wire.
- Fail to grasp the limitations of their equipment in certain soils.
- Overlook the importance of background information such as as-builts and site history.

If you are a homeowner asking, “How do I find underground utilities on my property?” the safest path is to:

1) Call 811 and get the public utilities marked. 2) Hire a private locator for anything deeper, broader, or riskier than shallow hand digging well away from known lines.

For contractors, the question becomes, “Should homeowners hire a utility locator, or should I?” Many professional excavators in Orange County now make private locating part of their standard offering, both as a risk management step and a way to avoid arguments later about who was responsible.

Legal and permitting context in Orange County

Alongside locating, you also need to sort out permits. “Do I need a permit to dig in Orange County?” depends on your jurisdiction and the nature of your work.

- Work in the public right of way almost always requires a permit from the city or county.
- Significant excavation on private property often requires building permits, grading permits, or both, especially if slopes, drainage, or structures are involved.
- Utility companies may have separate requirements if you are working close to their major facilities.

Permits and 811 are related but separate. Calling 811 does not give you a permit, and having a permit does not mean you can skip 811. They are parallel obligations.

When clients ask “Who do I call before digging in Orange County?” the answer is usually twofold: call 811 for public utilities, and call your city or county building and public works departments to verify what permits are required.

What happens if you hit a line

Despite good planning, strikes still happen. When someone asks, “What happens if you cut a utility line?” the practical answer has three parts.

First, safety response. Stop work, clear the area, and call emergency services if you have any sign of gas release, arcing, or immediate hazard. Secure the site and avoid improvising repairs.

Second, notification. Contact the utility owner and your insurer. Document everything, including photos of the site, existing markings, and the circumstances of the dig.

Third, investigation. Insurers, utilities, and sometimes regulators will look at:

- Whether you had an active 811 ticket.
- Whether utilities were marked and those marks were reasonably accurate.
- Whether private locating was appropriate and performed.
- How you excavated within the tolerance zones.

If they determine you failed to meet your duties, you may bear substantial costs. If they find that marks were missing or wildly inaccurate despite proper 811 notification and reasonable care, liability may shift.

The bottom line: “What happens if I dig without calling 811?” is that you take on almost all of this risk yourself, including the potential for civil penalties and, in serious cases, criminal exposure.

Key questions to ask a utility locating company in Orange County

By the time you start shopping for a locator and ask, “What is the best utility locating company in Orange County?” you should be thinking less about marketing claims and more about how they **Orange County Utility Locating** operate.

Here are questions that reveal a lot in a short time:

- What types of projects do you handle most often in Orange County, and can you give examples similar to mine?

- What equipment do your utility locators use on a typical job, and when do you bring in GPR or vacuum excavation?
- How do you explain your limits on accuracy, and how do you recommend we excavate around your marks?
- Will I get a written sketch, digital map, or report, or only paint on the ground?
- How do you handle scheduling, rush work, and coordination with 811 and local permit requirements?

Listen not only for the content of their answers, but for how realistic and specific they are. A professional will talk plainly about trade-offs, blind spots, and steps you still need to take, such as potholing.

Red flags when evaluating a locating company

On the flip side, there are warning signs that you may not be dealing with a careful professional.

Watch for these red flags:

- They tell you there is no need to call 811 because they “do everything.”
- They guarantee perfect accuracy without mentioning tolerance zones or site conditions.
- They rely on a single piece of equipment for all jobs without explaining when it falls short.
- They do not ask for any background information, plans, or scope details before pricing.
- They seem more eager to rush to the next job than to walk the site with you and discuss risk areas.

If you see a couple of these, keep looking. The cost of shopping around is minimal compared to the cost of a serious utility strike.

How utility locating ties into the rest of your project

Treat utility locating as part of your preconstruction plan, not a box to check at the last minute. The best results come when you:

- Define your excavation footprint clearly, then mark it with white paint so both the 811 locators and your private locator know where to focus.
- Share plans, past survey data, and any anecdotal knowledge about the site, such as old repairs or known abandoned lines.
- Walk the site with your locator, especially in complex or high-risk areas, to align expectations.
- Integrate locating results into your excavation plan, including where to hand dig, where to pothole, and how to stage machinery.

For large or complex jobs, consider formal subsurface utility engineering, where utility data is captured in CAD or BIM and used during design. This reduces conflicts and helps everyone from designers to operators understand where they can and [Orange County Utility Locating](#) cannot go.

Choosing a utility locating company in Orange County is really about choosing your appetite for risk. If you ask the right questions, respect the limits of both public and private locating, and give your locator enough information and time, you dramatically reduce the odds of painful surprises underground.

You will not see the true value of that decision on a day when everything goes smoothly. You will see it on the day you discover that a high-pressure gas line, a critical fiber trunk, or a main feeder was sitting exactly where you planned to dig, and it was marked in time for you to change course. That is when the investment in careful utility locating proves itself.