

If you dig in Orange County without understanding your underground utilities, you are gambling with more than just your project schedule. You are betting against gas leaks, flooded trenches, knocked-out internet to half the block, serious injury, and repair bills that can easily run into tens of thousands of dollars.

The common assumption is simple: “I called 811, so I’m covered.” That is only half right.

To plan safely and legally in California, you need to understand the difference between public and private utility locating, what 811 actually does, and when you need to hire a private utility locator. The distinction is not a fine-print technicality. It changes who shows up, what gets marked, who pays, and who is liable if something goes wrong.

This guide comes from years of field experience on construction sites, residential properties, and commercial campuses in and around Orange County, where soil conditions, dense development, and complex utility corridors make locating both crucial and sometimes tricky.

What is utility locating and why it matters before you dig

Utility locating is the process of identifying and marking the position and depth of buried infrastructure before you disturb the ground. That includes electrical lines, gas, communications, water, sewer, drainage, irrigation, and other subsurface systems.

On a practical level, it answers questions like:

- How do you find a buried electrical line feeding a detached garage?
- How do you locate a buried gas line that was rerouted during a past remodel?
- Can you locate a septic tank that predates modern records?

In Orange County, those questions come up everywhere: small yard renovations in Tustin, custom homes in Yorba Linda, industrial facilities in Santa Ana, and large HOAs in Mission Viejo.

Why is utility locating important before excavation? A few real scenarios illustrate it better than a code book:

A homeowner in Anaheim rented a small excavator to plant mature trees. He called 811, saw paint marks near the street, and assumed everything was safe deeper in the yard. His bucket caught an unmarked private electrical line running from the house to a pool subpanel. The result was a blown transformer, a scorched trench, and a multi-thousand-dollar repair. No public utility did anything wrong; the damaged line simply was not in their scope to mark.

On a commercial site in Irvine, a crew using a boring rig struck a private fire sprinkler line between buildings. It did not show on the original survey or as-builts. The flooding delayed the job for a week and required emergency site dewatering. Again, 811 had done its job. The problem was on the private side.

The pattern is constant: public locates are essential, but they are not complete. That gap is what this article is about.

How utility locating works in practice

Whether public or private, most utility locating relies on a combination of techniques and equipment. Understanding the basics helps you ask better questions and judge the quality of work on your project.

Electromagnetic locating

This is the workhorse of the industry.

A transmitter induces a signal onto a conductive utility, such as a metal water main or an electrical cable. A receiver then picks up that signal from above ground, allowing the locator to “trace” the line and mark its path.

This is the main method for:

- Locating buried electrical lines
- Tracing metal water and gas pipes
- Locating tracer wires installed along plastic pipes or fiber

Electromagnetic (EM) locators can usually detect utilities from just below the surface to several feet deep. In Orange County’s typical soils, 4 to 8 feet is routine, and deeper is possible under good conditions. However, depth accuracy is never perfect. A careful locator treats the depth reading as an estimate, not an absolute.

Ground penetrating radar (GPR)

Ground penetrating radar sends radio waves into the ground and reads the reflections from changes in material, such as pipes, voids, or buried structures. It is extremely useful when there is no conductive material to put a signal on, or when you do not want to directly connect to a utility.

What is ground penetrating radar used for in utility work?

- Locating non-metallic utilities where tracer wires are missing
- Finding unknown pipes and conduits in concrete slabs
- Supporting subsurface utility engineering (SUE) for design surveys
- Identifying abandoned structures, vaults, or tanks

How accurate is ground penetrating radar? Under typical Orange County conditions, with experienced interpretation, horizontal location is often within a few inches to about a foot. Depth accuracy depends on soil type and calibration, but you can usually expect a range rather than a single exact number.

Heavy clay, saturated soil, and reinforced concrete all reduce GPR performance. Coastal areas with variable fill or high groundwater near Huntington Beach can be especially challenging. That is where experience and cross-checking with other methods matter.

Locating plastic pipes and fiber

Can utility locators find plastic pipes? Yes, but with caveats.

If the plastic pipe or fiber optic cable has a tracer wire or a metallic tape beside it, EM locators can trace that conductor. Without a conductor, the locator will rely more heavily on GPR, acoustic techniques (for some water lines), or specialized sondes inserted into accessible lines.

For example:

- To locate a buried water line that is plastic, a locator might attach a sounding device to a hydrant or hose bib and listen with a ground microphone as water flows.
- To locate a buried gas line, a locator often works from known tie-in points: the meter, street main, or an appliance stub.

- To locate a sewer line, technicians may send a camera with a sonde (beacon) into the line, then trace the beacon from the surface.
- To locate a septic tank, a combination of records, GPR, probing, and camera work in the sewer lateral might all be used.

There is no single magic device. The right combination of methods, plus a good mental model of how contractors usually built systems in a given era, is what makes a locator effective.

How long utility locating takes

For most residential or small commercial projects, public utility locating through 811 is scheduled within a few business days and often performed in under an hour onsite per utility.

Private utility locating is more variable. A straightforward residential job might take 1 to 3 hours. A multi-building commercial site or a campus-style property can take a full day or more, especially if record research, GPR grids, and CCTV sewer inspections are involved.

The critical point: schedule locating early. In Orange County's busy construction cycles, private locators can book out several days, and you must also respect the legal timing windows for 811.

Public utility locating in Orange County: what 811 actually does

In California, 811 is the one-call system for public utility locating. In most of Orange County, it is managed through Underground Service Alert of Southern California, also known as DigAlert.

Is calling 811 the law in California?

Yes. California Government Code 4216 requires anyone who plans to excavate to notify the regional notification center, which is 811, before digging.

"Excavation" covers far more than massive trenching. It includes augering for fence posts, stump grinding, grading, and even deep landscape planting. If you are doing anything that disturbs the soil with power equipment, plan to call.

How far in advance do you need to call before digging? The law generally requires notification at least 2 working days before excavation, excluding weekends and holidays, and not more than 14 days before you begin. That window gives utilities time to respond and keeps marks reasonably current.

Is utility locating free in California?

The public utility locating you receive by calling 811 is free to the excavator. Member utilities pay into the system. The cost is effectively built into your utility bills, not charged per [bessutility.com](https://www.bessutility.com) Orange County vacuum excavation ticket.

This free locating covers only underground facilities owned and maintained by the member utilities, up to their defined points of responsibility.

What public utilities mark, and where they stop

Public utility locators typically mark:

- Electric distribution and service lines owned by the utility, usually up to the meter or service disconnect
- Gas mains and service lines up to the meter

- Communications cables (phone, fiber, cable TV) up to the demarcation point, often at the side of the building
- Municipal water mains and service laterals up to a shutoff or meter
- Municipal sewer mains and sometimes the lateral up to the property line or a cleanout, depending on local policy

Beyond those points, lines are usually considered private.

So, does 811 locate private lines? In nearly all cases, no. 811 notifies the utilities, and those utilities locate only what they own. They do not mark homeowner-installed electrical to a detached workshop, private irrigation, or a restaurant's grease interceptor line on private property.

What does 811 not locate?

Utility companies mark only their facilities. Common things that are not covered by 811 include:

- Electrical circuits beyond the meter, such as yard lighting, pool equipment feeds, and detached building feeds
- Private gas lines from the meter to outdoor kitchens, pool heaters, and guest houses
- Fire sprinkler supply lines on private property
- Irrigation mains and control wires
- Private sewer laterals, older septic systems, and on-site treatment equipment
- Storm drains on private commercial or HOA property
- Private fiber, security, or data networks within a campus or complex

Homeowners are often surprised by this list. They see paint on the sidewalk and assume everything on their property is clear. That misconception is what leads to many "I thought 811 marked that" accidents.

Private utility locating: what it covers and who needs it

Private utility locating steps in where 811 stops. A private utility locator is hired directly by the property owner, contractor, engineer, or project manager to find and mark any underground facilities that are not owned by public utilities.

What does a private utility locator do?

A good private locator brings three things:

- Field equipment such as EM locators, GPR, sondes, metal detectors, and sometimes CCTV cameras for sewer and drain lines
- The skill to interpret signals correctly and identify conflicts or missing information
- The judgment to recommend additional investigation where necessary, such as potholing or record research

Common private locating assignments in Orange County include:

- Tracing electrical lines to outbuildings, parking lot lighting, signs, and EV chargers
- Mapping private gas and water services around large custom homes or estates
- Locating sewer laterals from buildings to the street, and identifying the path of old or undocumented lines
- Locating fiber optic and low-voltage systems inside commercial sites, data centers, and campuses
- Finding septic tanks and leach lines on older or semi-rural properties

Should homeowners hire a utility locator? If you are doing anything more than very shallow hand digging near obvious utilities, it is often worth at least getting a quote. The more you have invested in hardscape, pools, and outbuildings, the more likely you have a web of private utilities that 811 will never mark.

How much does private utility locating cost in Orange County?

Pricing varies by scope, access, and the mix of tools required, but some realistic ballpark ranges:

- For a typical single-family residential property, private utility locating often runs in the neighborhood of a few hundred dollars, for example 300 to 650 dollars.
- For a small commercial project, expect somewhere in the mid hundreds to low thousands, often 800 to 2,500 dollars, depending on how many utilities need to be located and whether GPR grids or sewer camera inspections are required.
- Subsurface utility engineering (SUE) for design, especially Level A or B with detailed mapping and test holes, is a more extensive service and can run significantly higher. Those projects are usually bid individually.

Compare that with the cost to repair a damaged utility line. A single fiber cable cut on a commercial site can lead to a 5-figure repair invoice, not counting liquidated damages or business interruption. A gas service hit can involve emergency response, traffic control, operating crews, and permanent repairs. You do not want to be guessing where that line runs.

Who pays for utility locating? Public locating via 811 is covered by the utilities, private locating is paid for by whoever orders the work. From a risk management standpoint, it is simply part of doing business safely.

Public vs. Private utility locating: key differences at a glance

The phrase “What is the difference between public and private utility locating?” comes up constantly during preconstruction meetings. It helps to see the contrast clearly.

Aspect	Public utility locating (811)	Private utility locating
Who you contact	Call 811 / DigAlert	Hire a private locating company
Cost to you	No direct charge	You or project owner pay
Who does the work	Utility company or their contractor	Independent locating firm
What gets marked	Facilities the utility owns and maintains	Anything on site within agreed scope, including private lines
Typical limits	Up to meter, shutoff, or property line	From those points into and across the property
Legal requirement	Required before excavation in California	Not required by statute, but often required by contracts or best practice
Detail level	Sufficient to avoid damage to public plant	Can be tailored to design-level mapping and SUE standards

From a project planning standpoint, think of public locates as the base layer you must have to comply with the law, and private locates as the additional layer that protects your specific site and investment.

Utility marking colors: what the paint and flags actually mean

Orange County streets and job sites often look like someone spilled a box of colored chalk on them. Those marks are standardized for a reason.

What do the utility marking colors mean?

- Red paint or flags indicate electric power. This includes primary distribution, secondary services, and lighting circuits. So if you are wondering what red paint means on the ground along your driveway, it almost always points to electrical.

- Orange indicates communications. That covers fiber optic cable, telephone, cable TV, and similar data lines. When you see orange utility flags near the street, expect buried fiber or coax.
- Yellow covers gas, oil, or other flammable materials. Any trench with yellow paint deserves extra caution.
- Blue marks potable water. In residential neighborhoods, you will often see blue lines from the street main to individual meters.
- Green indicates sewer and drain lines. This includes sanitary sewer and many storm drains.
- Purple marks reclaimed water, irrigation supplied by recycled water, or similar non-potable systems.
- Pink is often used for temporary survey markings.
- White paint on the ground typically shows the proposed excavation area or limits of work. It is the excavator's way of telling the utilities, "This is where I plan to dig."

Understanding the colors helps you read your site and spot inconsistencies. For example, if your records show a sewer lateral on one side of the lot but you see green paint on the other, that is a signal that something does not match and needs a closer look.

Accuracy and limitations: how precise is utility locating?

How accurate is utility locating? It is more accurate than guessing, but less exact than a finished as-built drawing.



The advertisement features a QR code in the top left corner. To its right, the company name "Bess Utility Solutions" is displayed in orange, followed by the address "2463 Tripaldi Way, Hayward, CA 94545", the phone number "(408) 988-0101", and the website URL "https://www.bessutilitysolutions.com/underground-locating-detection/". The main title "BESS ORANGE COUNTY UTILITY LOCATING" is prominently displayed in the center. Below the title is a photograph of a utility locating operation on a residential street, showing an orange cable being pulled from a trench, with an orange traffic cone in the foreground. The advertisement is framed by a black border with red and grey geometric shapes in the corners.

In California, the tolerance zone around a marked utility is typically 24 inches on each side of the mark. Within that zone, you are expected to use hand tools, vacuum excavation, or other careful methods to expose the line before you proceed with mechanical excavation.

Several factors affect accuracy:

- The type of locating method used (EM, GPR, sondes)
- The depth of the utility
- Soil and backfill conditions
- Presence of multiple parallel utilities
- Quality of access for connecting equipment

A good locator will explain what they are confident about and where uncertainties remain. For example, they might say a line is located within 12 inches horizontally but depth could vary by a foot or more, especially if the line transitions from native soil to fill.

This is why experienced excavators treat paint as the first layer of information, not the last word. They use it to guide safe exploratory digging, not to justify blindly plunging a bucket into the ground.

Liability: what happens if you hit a utility line?

Who is liable if you hit a utility line? The answer depends on what steps you took beforehand.

If you dig without calling 811 in California and damage a public utility, you are almost certainly liable for the full cost of repair and associated damages. Beyond the invoice, you may face enforcement penalties from the California Underground Facilities Safe Excavation Board.

Is it illegal to dig without calling 811 in California? Failing to notify 811 before excavation violates state law. For homeowners putting in a few plants with a shovel, enforcement may be unlikely, but the risk is still real. For contractors and commercial work, it is a serious compliance issue.

If you did call 811, waited for responses, respected the marks, and still hit a line exactly where it was not supposed to be, liability may shift. Each case turns on its facts. Sometimes the utility bears responsibility, sometimes the excavator, sometimes it is shared.

Private utilities complicate the picture. If you hit your own unmarked private line, you or your client will typically pay for repairs. Insurance may cover some losses, but insurers also look at whether you followed best practices, such as hiring a competent private locator for significant work.

How much does it cost to repair a damaged utility line? A few ballpark examples:

- A small residential copper water service: often hundreds to low thousands of dollars, depending on access and surface restoration.
- A gas service: thousands, especially when emergency response and street restoration are involved.
- A fiber optic main or large communications duct bank: easily into the tens of thousands or more, and damage claims can include service interruption losses.

Against those numbers, the cost of a thorough locating job looks modest.

Practical guidance for Orange County property owners and contractors

Several recurring questions come up in Orange County projects. It helps to address them directly.

Can I locate my own underground utilities? You can attempt to, and there are consumer-grade locators on the market, but they have limitations. The real risk is misinterpretation: you might pick up a signal from a different line, miss a parallel pipe, or misjudge depth. For small, low-risk tasks, a homeowner might do exploratory hand digging

and probing after 811 marks. For anything significant, especially involving power or gas, bringing in a professional private locator is the safer route.

How do I find underground utilities on my property if records are poor? Combine several approaches: call 811 for public lines, study whatever as-builts or site plans you can find, look for visual clues like meter locations, cleanouts, and valve boxes, and then hire a private locator to confirm and expand on that picture.

Do I need a permit to dig in Orange County? On private property, shallow landscaping often does not require a permit, though deeper foundations, walls, pools, and utility work usually do. Any excavation in the public right-of-way, such as sidewalks, streets, or parkways, will require permits from the city or county. Always check with your local building department or public works office before you plan major digging.

Who do I call before digging in Orange County? For public utilities, call 811. For private locating, reach out to a reputable utility locating company that works regularly in Orange County and understands local utility practices. Ask about their equipment, reporting, and experience with the type of work you are planning.

What is subsurface utility engineering (SUE)? SUE is a more formal, engineering-grade process of locating, surveying, and documenting underground utilities to specific quality levels (A through D) used in design and construction. Utility locating for immediate excavation safety is related but not identical. On larger projects, especially in transportation or public works, SUE is often a requirement long before any digging begins.

When you definitely need a private utility locator

You will not need a private locator for every hole you dig. But there are situations where skipping that step is asking for trouble.

Here are scenarios where hiring a private utility locator in Orange County is strongly recommended:

- You are installing a pool, major hardscape, deep footings, or significant grading anywhere on a developed lot.
- You are working near known or suspected private gas, electrical, or communications lines serving outbuildings, signs, or site lighting.
- You are renovating or expanding older commercial facilities where record drawings are incomplete or unreliable.
- You have a property with a history of additions, remodels, or undocumented utilities (very common in older neighborhoods).
- You suspect a septic tank, abandoned utilities, or undocumented drain lines on the site.

In each of these cases, public 811 marks are necessary but not sufficient. A private locator fills the gap between what the utility owns and what is actually buried beneath your project.

A simple checklist before you dig in Orange County

To wrap the practical side, here is a concise checklist you can walk through before excavation:

- Define your exact work area and mark it with white paint or flags so utilities know where to focus.
- Contact 811 (DigAlert) at least 2 working days before you plan to dig, and get a ticket number.
- Review the responses and site markings, and note which utilities responded and which did not.
- Evaluate whether private utilities are likely within or near your work area, and if so, hire a private utility locator.
- Plan your excavation to respect tolerance zones, and use potholing or hand digging to confirm critical utilities before heavy equipment moves in.

Handled this way, utility locating becomes part of a disciplined process, not an afterthought.

Public and private utility locating are two sides of the same safety coin. Public locates through 811 keep you compliant with California law and protect the shared infrastructure we all rely on. Private locating protects your specific property, your project, and your people.

If you treat 811 as the finish line, you leave blind spots underground. If you treat it as the starting point and build on it with appropriate private locating, you dramatically reduce the odds of surprises, delays, and expensive damage when the digging starts.

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