

If you live or work in Orange County, you have probably seen small orange flags in the parkway or bright painted lines across sidewalks and driveways that appear overnight. Then a few days later, a contractor arrives with a drill, trenching machine, or backhoe, and starts cutting right along those markings.

Those flags and lines are not random graffiti. They are part of a very deliberate process called utility locating, and understanding what you are looking at can save you a lot of money, headaches, and potential safety issues when it is your turn to dig.

I have walked many Orange County properties with a can of marking paint in one hand and a locator receiver in the other. Homeowners, property managers, and even contractors often ask the same questions: what does orange mean, how accurate are these marks, do I really have to call 811, and when do I need a private utility locator?

Let us walk through those questions in practical, local terms.

What you are actually seeing: the underground “map” on the ground

Those flags and painted lines are a temporary, color coded map of what lies below the surface. Before anyone excavates - whether that is a new pool in Mission Viejo, a landscape project in Irvine, or a telecom upgrade in Anaheim - someone has to identify where utilities run.

Utility marking follows a national color standard called APWA (American Public Works Association) colors. Orange County cities, utilities, and private locating firms all use this same code.

Here is the quick reference:

Color	What it marks	----- -----	White	Proposed excavation area
Red	Electric power lines, lighting, traffic signals	Orange	Communications, alarms, fiber optic cables	Yellow
Gas, oil, steam, petroleum lines	Green	Sewer and drain lines	Blue	Potable (drinking) water
Purple	Reclaimed or recycled water, irrigation	Pink	Temporary survey markings	

So when you see orange utility flags or orange paint on the ground in Orange County, you are looking at communications infrastructure: fiber optic cables, phone lines, cable TV, communications conduits, or alarm lines.

White paint is also worth recognizing. When you see white boxes, arrows, or hatching, that is not a utility. It is the proposed work area that the excavator or homeowner has outlined, usually in response to an 811 ticket.

What do orange utility flags mean in practical terms?

Orange markings on your property tell you that some form of communications line is present. In Orange County, this often means fiber belonging to AT&T, Spectrum, Frontier, or another carrier, or low voltage communication or alarm lines for a building.

A few key points from the field:

- Orange lines usually mean “do not trench here without a plan.” Fiber optic cables in particular are extremely sensitive. You can damage them without fully exposing or cutting them, for example by pinching a conduit with an auger or compactor.
- The cost to repair a damaged communications line can range from a few hundred dollars for a simple small copper line to tens of thousands for a high count fiber trunk that feeds a neighborhood or business park.

- If you cut a fiber line feeding a commercial tenant, you are not just paying the repair invoice. You might also be responsible for business interruption, depending on the situation and contracts involved.

In dense parts of Orange County, like business districts in Irvine or Costa Mesa, orange markings are often more critical than they appear. One shallow conduit can carry many individual fibers at once. Hitting it can knock out service to a surprising number of people.

What is utility locating and why it matters before you dig

Utility locating is the process of finding and marking buried utilities before excavation. The goal is simple: avoid damage, keep people safe, and reduce costly surprises.

On paper, that may sound like a box to check before pulling a permit. On real jobs, it is the difference between a routine dig and an incident report.

A few reasons it matters so much in Orange County:

1. The subsurface is crowded. Older neighborhoods often have layers of abandoned, mismapped, or modified utilities sitting above or alongside active lines.
2. Construction has been constant for decades. Every new fiber network, reclaimed water line, or gas main adds complexity.
3. Soil conditions vary. From coastal sands in Huntington Beach to heavier soils in inland cities, signals behave differently, and depth of cover can be inconsistent.

When you ask, "How do I find underground utilities on my property?" what you are really asking is, "How do I avoid hitting something that will hurt someone, cost me money, or delay my project?" Utility locating is the answer to that, but not always in the way people assume.

Public vs private utility locating: 811 is not the whole story

Most people have heard of 811, and that is good. In California, contacting 811 before digging is not just a good idea, it is effectively the law for most excavations.

Is calling 811 the law in California?

State law requires excavators to notify the regional one call center before digging. In Orange County, that means contacting DigAlert (by dialing 811 or submitting online) at least two working days and no more than 14 calendar days before you excavate.

If you dig without calling 811 and damage a line, you are exposed to:

- Liability for repair costs.
- Potential penalties.
- Increased exposure if someone is injured or service is disrupted.

So, yes, if you are asking "Is it illegal to dig without calling 811 in California?" the safe answer for any meaningful excavation is: you must call.

Is utility locating free in California?

The public utility locating performed in response to an 811 ticket is free to the excavator. Utility owners pay for that service as part of their obligation to protect their infrastructure.

But there is a critical limitation.

What does 811 not locate?

Public utility locators who respond to DigAlert tickets usually only mark facilities that are owned and maintained by the utility company up to a specific demarcation point. They do not typically mark:

- Private lines beyond the meter or service point.
- Customer owned electric feeders between buildings.
- Private fire lines or irrigation systems.
- Private sewer laterals beyond the utility maintained segment.
- Private communications, security, or data cabling.

So when you ask, "Does 811 locate private lines?" the answer is generally no. That is where private utility locating comes in.

What is the difference between public and private utility locating?

Public utility locating is the free service you get through 811. Each utility sends its own locator or a contract locator to mark the lines that it owns:

- Power company marks up to the meter.
- Gas company marks their main and usually up to the meter.
- Water district marks their mains and typically up to the meter or property line.
- Telecom providers mark their networks to their demarc.

Private utility locating is a paid service you hire to find everything else on the property: private electrical, private gas lines feeding outbuildings, private water lines to remote irrigation, sewer laterals, septic tanks, private fiber networks, and so on.

On commercial campuses, hospitals, schools, and large residential estates in Orange County, private lines can be extensive, and 811 will only show you part of the picture.

What does a utility locator do, and how does utility locating work?

A utility locator, whether they work for a public utility or a private firm, interprets signals from specialized equipment, existing records, and site conditions to identify where utilities are buried. It is part science, part craft.

In a typical visit, the locator will:

1. Review any available maps or as-builts, and confirm the scope, usually based on your 811 ticket or a private work order.
2. Walk the site visually to look for telltale signs: risers, meters, valve boxes, transformers, pedestals, and previous markings.
3. Hook up an electronic transmitter to accessible lines or use inductive methods when direct connection is not possible.
4. Sweep with a receiver, interpret signal response, mark alignment, and, when appropriate, estimated depth.
5. Use supplemental methods like ground penetrating radar (GPR) or radio detection on tracer wires for nonmetallic pipes.

It is not a guessing game, but it is rarely as simple as “point the device and know everything instantly.” Soil conductivity, nearby utilities, and site clutter all affect what the locator sees.

What equipment do utility locators use?

Typical tools a locator might bring to your Orange County property include:

- Electromagnetic locators for metallic lines and tracer wires.
- Ground penetrating radar units for nonmetallic utilities and complex sites.
- Inductive and conductive transmitters to apply a signal to target lines.
- Sonde or tracer rods for tracing sewers and conduits from inside.
- Marking paints and flags for accurate, visible surface markings.

Different locators favor different brands and models, but the general toolkit looks similar whether you are in Anaheim or San Clemente.

How deep can utility locators detect, and can they find plastic pipes?

“How deep can utility locators detect?” is one of the most common questions I hear, and the honest answer is: it depends.

Electromagnetic locators, which are the workhorses for metallic utilities, can often trace lines buried several feet deep under typical Orange County conditions, and sometimes more. On open ground with favorable soils and strong signals, depths of 10 to 15 feet are possible. In crowded urban streets with interference, practical accuracy might be limited to shallow depths only.

For nonmetallic utilities like PVC water lines or plastic sewer laterals, things change. On their own, plastic pipes do not carry a signal. To locate them, you need help:

- A tracer wire buried with the pipe, which can be energized and located electromagnetically.
- A duct rodder with an embedded copper wire and sonde head inserted into the pipe, then traced.
- Ground penetrating radar, which detects changes in material and density.

So when you ask, “Can utility locators find plastic pipes?” the answer is yes, frequently, but only with the right conditions or additional tools.

GPR in particular is often misunderstood. “What is ground penetrating radar used for?” It sends radar pulses into the ground and looks at reflected signals to build a picture of subsurface changes. It is especially useful for locating:

- Nonmetallic utilities without tracer wire.
- Voids, tanks, and anomalies.
- Complex utility corridors with mixed materials.

“How accurate is ground penetrating radar?” When used by someone experienced, under good soil conditions, GPR can be accurate within inches on depth and alignment. In very clay rich or saturated soils, or in extremely cluttered utility corridors, it can struggle or produce ambiguous data. Parts of Orange County with sandy or granular soils are generally favorable; heavy clays or very shallow groundwater, less so.

Overall, “How accurate is utility locating?” For standard electromagnetic locating on metallic lines, a good locator can usually keep alignment within 12 to 24 inches horizontally in typical conditions. Depth readings are estimates,

not guarantees. That is why safe digging practices always include a buffer zone and hand digging or vacuum excavation to physically expose the line.

How do you locate specific types of buried utilities?

Different utilities have their own quirks. A few examples based on common Orange County situations:

How do you locate a buried water line?

Public water mains are usually metallic or equipped with tracer wires. Utilities will mark them for free through 811. Private water lines, such as those feeding remote irrigation, outbuildings, or large estates, might be plastic without tracer wire.

A locator may use:

- Direct connection to a metallic section or a tracer wire, when present.
- A clamp or inductive method near a meter.
- GPR when no conductive path is available.

Accuracy often depends on pipe depth and soil conditions.

How do you locate a buried gas line?

Public gas mains and service lines are usually coated steel or plastic with tracer wire, and SoCalGas will locate its facilities in response to an 811 ticket.

Private gas lines, for example from a meter stub to a pool heater or outdoor kitchen, can be trickier. Locating methods can include:

- Direct connection to any accessible metallic section or tracer wire.
- GPR combined with careful visual spotting of meter outlets and appliance locations.
- Tracer rods inserted in empty or spare conduits where available.

Because gas lines carry a safety risk, any uncertainty often leads to conservative marking and strong recommendations for cautious digging.

How do you locate a sewer line or septic system?

Sewer laterals and private sewer lines are often vitrified clay or PVC. They do not carry a signal by themselves. A locator typically:

- Sends a sewer camera with a sonde (transmitter) down the line, then tracks the sonde from the surface.
- Uses GPR to identify the pipe in favorable soils.
- Looks for manholes, cleanouts, and existing as-built drawings to guide tracing.

For septic systems, the question “Can you locate a septic tank?” usually has a yes answer, using GPR and sondes, along with experience reading surface grading and older property layouts.

How do you find a buried electrical line or fiber optic cable?

Buried electrical feeders between buildings or to detached garages are prime candidates for private locating. A locator will usually:

- Connect a transmitter directly to the circuit or conduit where accessible.
- Use a clamp around the cable in a panel if direct connection is not possible.
- Trace with an electromagnetic receiver and mark surface alignment and approximate depth.

For fiber optic cables, which are nonmetallic, the key is whether there is a metallic tracer or sheath.

“How do you locate a fiber optic cable?” In practice:

- Many fiber cables include a metallic sheath or tracer that can be energized.
- Conduits containing fiber often have a tracer wire.
- If neither is present, GPR might be the only noninvasive option, and even then, results can vary.

In busy telecom corridors, orange markings often represent multiple fiber paths running parallel or crossing, so a careful locator will annotate markings with facility owner and count where known.

How much does utility locating cost in Orange County?

Costs vary based on property size, complexity, access, and the level of detail you require.

When people ask, “How much does utility locating cost in Orange County?” or “How much does private utility locating cost?” for residential and light commercial projects, here are typical ranges as of recent years:

- Basic private locate for a single family home, supplementing 811 marks and identifying obvious private lines: often in the range of \$250 to \$600, depending on travel, site complexity, and whether GPR is needed.
- More complex residential estates, small commercial pads, or multi building complexes: frequently between \$600 and \$1,500, especially if multiple technologies are used.
- Subsurface utility engineering (SUE) projects for design, where utilities are surveyed and mapped to specific quality levels: these can range into the thousands or tens of thousands, depending on scope.

Public utility locating via DigAlert / 811 is free to you. Private utility locating is typically paid by the property owner, contractor, or project owner. Sometimes it is written into the construction contract or required by a municipality or utility.

When you ask, “Who pays for utility locating?” the answer is usually: utilities pay for the public segment via 811, and anyone who wants more certainty about private infrastructure pays for private locating.

Subsurface utility engineering: the more formal version of “find everything”

Subsurface utility engineering, or SUE, is a formal practice used heavily on larger infrastructure and development projects. Rather than just paint marks on the ground, SUE involves:

- Systematic utility research and records collection.
- Field locating with multiple methods.
- Survey grade mapping and CAD integration.
- Sometimes vacuum excavation to expose and verify critical utilities.

If you are managing a significant project in Orange County, such as a streetscape, large commercial site, or public works project, SUE can dramatically reduce surprises during construction.

ORANGE COUNTY UNDERGROUND UTILITY LOCATING

BESS
UTILITY SOLUTIONS



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<https://www.bessutilitiesolutions.com/underground-locating-detection/>



It is more expensive than a simple “mark the lines so we can dig a trench” call, but for complex sites with overlapping utilities, it usually costs less than a single serious utility strike.

Who is liable if you hit a utility line, and what happens next?

The question “Who is liable if I hit a utility line?” is, unfortunately, often only asked after something goes wrong.

Responsibility usually depends on:

- Whether 811 was called properly and in time.
- Whether markings were followed and safe excavation practices were used.
- Whether private utilities were reasonably identified when public marks were not sufficient.
- Any contractual assignments of risk between property owners and contractors.

If you cut a utility line, several things happen quickly:

- The utility owner responds to restore service and make the site safe.
- A damage report is generated, with photographic documentation.
- Repair costs are calculated, which can include labor, equipment, materials, traffic control, and sometimes loss of revenue or penalties.

“How much does it cost to repair a damaged utility line?” A small residential telecom drop might cost a few hundred dollars. A significant gas main or high count fiber line in the public right of way can run into five or six figures, especially if work requires street closures, night [Orange County utility locating](#) work, or specialized crews.

If you dig without calling 811 and damage a line, your exposure to costs and penalties increases. If serious injury or a major service outage occurs, legal and regulatory consequences can be substantial.

Permits, timing, and practical steps before you dig in Orange County

Different cities in Orange County have different permit requirements, but generally:

- You do need a permit to excavate in the public right of way, such as sidewalks, streets, or parkways.
- On private property, a permit may be required for larger excavations, structures, retaining walls, pools, and similar work. Grading permits may also apply for larger volumes of soil.
- Cities often require evidence of a DigAlert ticket before issuing certain encroachment or excavation permits.

“How far in advance do you need to call before digging?” In California, you must notify 811 at least two working days before excavation, not counting the day of your call, weekends, or holidays. Marks are typically valid for 28 days if they remain visible and conditions do not change.

If you are planning a project, here is a simple, practical sequence:

- Define where you actually plan to dig, and mark it in white paint if requested by DigAlert or your private locator.
- Contact 811 and obtain a ticket; wait for all utilities to respond and mark or clear your site.
- Review the markings and your project; identify gaps, especially private lines not covered by 811.
- Hire a private utility locator if there is any significant risk of private utilities in your proposed dig area.
- Use safe digging practices, including hand digging or soft excavation when approaching known or suspected utilities.

That small investment in planning and locating is almost always cheaper than even a minor damage incident.

Should homeowners and small contractors hire a private utility locator?

Homeowners often ask, “Do I need a private utility locator?” after they have already called 811. The answer depends on what and where you are digging.

For simple fence posts or shallow planting far from obvious utilities, public marks may be adequate. But consider hiring a private locator if:

- You are trenching for new power, gas, or irrigation across your yard.
- You have a pool, outdoor kitchen, detached garage, or additions that likely have private electric or gas lines.
- Your property has a septic system, older undocumented modifications, or prior owners who “did their own thing.”

“Can I locate my own underground utilities?” For very simple cases, you can gain some information from visible infrastructure, property records, and inexpensive metal detectors. But these methods do not substitute for professional tools and experience, especially with live power, gas, or high value fiber.

For contractors working regularly in Orange County, building a relationship with a reliable private locator pays for itself. The “best” utility locating company is less about a marketing slogan and more about consistent accuracy, responsiveness, and clear communication. Good locators explain what they did, what they found, and where uncertainties remain, so you can make informed decisions.

Why utility locating matters more here than you might think

Orange County has a long history of layered development. Old oil infrastructure, early subdivisions, piecemeal utility upgrades, and modern high capacity fiber all coexist below your feet. On newer tracts, utility corridors are relatively orderly; on older properties, buried history can be messy.

Accurate utility locating is the only way to turn that buried chaos into a manageable set of knowns. Understanding what the colors mean, especially the orange flags and paint that signal sensitive communications lines, is a small but important part of that picture.

When you walk your project site and see white paint outlining the work area, red lines tracing electrical feeders, yellow highlighting gas, blue marking water, green for sewer, and orange for fiber and communications, you are looking at a condensed risk map. Reading that map correctly before you break ground is one of the simplest ways to keep your project on schedule, your costs under control, and your crews and neighbors safe.

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