

If you plan to dig in Orange County, whether for a backyard pool, a commercial tenant improvement, or a city capital project, you will run into one practical question right away: how long will utility locating take, and when can the shovel hit the dirt?

The honest answer is that the timeline ranges from a same-day emergency response to several weeks for complex subsurface utility engineering on a major site. Most routine residential and light commercial jobs fall somewhere in the middle, usually a few days of lead time plus an hour or two in the field.

Understanding what drives that schedule helps you plan permits, coordinate crews, and avoid the expensive nightmare of hitting a buried electric, gas, water, or fiber line.

What utility locating actually is

Utility locating is the process of finding and marking underground utilities before excavation. That includes public lines owned by the utility companies and many private lines that run inside private property, behind the meter, or inside large campuses.

When people ask “What is utility locating?” they are usually thinking of the colored paint and flags that show up on the ground before a dig. Behind that paint is a mix of records research, field locating with electronic equipment, and professional judgment.

A utility locator’s job is to identify what is in conflict with your dig area, mark it accurately at the surface, and communicate limitations or uncertainties. On a typical job in Orange County, that means:

- Reading utility maps and records when available.
- Scanning the site with locating instruments.
- Marking the utilities on the ground with paint or flags.
- Documenting findings, often with photos, sketches, or CAD.

Good locators do more than trace lines. They explain what they are confident about, what is approximate, and where you should dig with extra caution.

Public vs private locating and why it changes the schedule

The biggest point of confusion in Orange County is the difference between public and private utility locating and who does what.

Public utility locating is what you get when you call 811, known in California as DigAlert. The call is free, the service is free, and yes, calling 811 is the law in California before you dig in most situations. When you contact 811, they notify member utility owners, such as Southern California Edison, SoCalGas, AT&T, Spectrum, and local water districts. Those utilities send locators (or their contractors) to mark the lines they own, typically up to the meter or demarcation point.

Private utility locating covers any lines that are not the utility’s responsibility. Common examples include:

- Power from a house to a detached garage.
- Gas lines to a pool heater or outdoor kitchen.
- Water service inside private property beyond the meter.
- Electrical and communications inside a commercial site, university, hospital, or HOA.

- Private sewer laterals, septic systems, storm drains.

811 does not locate these private lines. When people ask, “Does 811 locate private lines?” or “What does 811 not locate?” the answer is almost always the same: 811 only coordinates with member utilities on their owned facilities. Anything installed by a property owner, contractor, or previous tenant is usually your own responsibility to locate.

That is why many projects require both steps:

1. Call 811 for public utility locating.
2. Hire a private utility locator for everything else.

Each step has its own timetable. The free public locating is tied to statutory response windows. Private locating depends on market demand, scope, and complexity.

Legal timing: how far in advance you must call

In California, the law requires excavators to contact 811 before digging in most circumstances. For routine work, DigAlert requires at least two working days’ notice, not counting the day you call. That is the minimum. In practice, you should plan three to five business days to be safe, especially if you have a large or congested site in Orange County.

For emergencies, utilities can respond much faster, sometimes the same day, but “emergency” has a specific legal definition related to safety or service outages.

If you dig without calling 811 and damage a line, you can be held liable for repair costs, civil penalties, and any injuries or property damage. Many contractors in Orange County have learned the hard way that “minor” digs such as fence posts or small trees still require notification. The law does not carve out large exceptions for “just a few holes.”

Typical timelines for utility locating in Orange County

The overall timeline has several stages. For a typical residential or small commercial project, you can expect:

Planning and scoping. A day to a week, depending on how organized you are with site plans, what you know about existing utilities, and how quickly you reach a private locator.

811 public utility locating. Legally, two working days after the ticket is in effect, but allow up to three to five days around weekends, holidays, or busy seasons.

Private utility locating. Same day to five working days for scheduling in Orange County, depending on company workload and whether you need ground penetrating radar or more advanced subsurface utility engineering.

Field work duration. From about 30 minutes for a small, simple residential locate, to a full day or more for a large commercial lot, school, or industrial site with multiple buildings.

Reporting and drawings. Basic paint and flag marking is immediate. If you request a formal report, GPS points, or CAD drawings as part of subsurface utility engineering, expect several days to a few weeks, depending on level of detail.

For many homeowners the actual time on site is surprisingly short, often under a couple of hours. What stretches the schedule is lead time, coordination, and any required permits.

Key factors that affect how long utility locating takes

Several practical variables affect whether your locate is quick and straightforward or stretched over days and multiple visits.

1. Scope and size of the dig area. A single trench for a new gas line behind a house is faster than an entire commercial parcel with parking lots, landscaped areas, and multiple structures.
2. Utility congestion. Older parts of Orange County and areas with decades of remodels and utility upgrades often have multiple generations of abandoned and active lines stacked together. Sorting through that takes time.
3. Type of utilities and materials. Power, gas, and communications with metallic components are easier to detect electronically. Plastic water or sewer lines without tracer wire may require ground penetrating radar, acoustic methods, or CCTV, which slows the process.
4. Access and site conditions. Locked gates, heavy traffic, thick landscaping, steep slopes, or paved areas with no access points can all add time. Sometimes locators must work around parked cars and stored materials just to get a clean signal.
5. Level of documentation requested. Simple "locate and mark" is quicker. Full subsurface utility engineering, with surveyed points, depths, and CAD deliverables, is inherently more time intensive.

If you remember nothing else about timelines, remember this: complexity above ground usually signals complexity below ground, and that always adds time.

How utility locating actually works in the field

A lot of people imagine utility locating as "waving a magic wand" and seeing lines underground. The reality is more methodical.

Most public and private locators in Orange County rely on electromagnetic (EM) locating first. With EM locating, a transmitter induces a signal on a conductive line, and a handheld receiver traces that signal along the ground. This works best for metallic pipes, metal cables, tracer wires, or conduits with conductors.

For non-metallic utilities, or where EM signals are messy or inconclusive, locators bring in ground penetrating radar (GPR). GPR sends radio waves into the ground and listens for reflections from changes in material. That can reveal the presence of plastic pipes, concrete structures, buried tanks, or voids. When people ask "What is ground penetrating radar used for?" in this context, it is mainly for mapping non-metallic utilities, resolving conflicts, and supplementing EM.

Other tools appear as needed:

- Sondes and traceable rods, which can be pushed into a pipe or conduit and then located from the surface with an EM receiver.
- Acoustic or leak detection equipment for some water lines.
- CCTV cameras pushed through sewer lines to verify routes and tie into surface maps.

"What equipment do utility locators use?" depends on the job, but a good private utility locator in Orange County typically has a van full of EM locators, multiple frequencies, GPR, sondes, and CCTV options.

Depth and accuracy: how good is the information?

Two practical questions always come up: how deep can utility locators detect, and how accurate is utility locating?

For EM locating, depth is limited more by layout and soil conditions than by the instrument's raw capability. In normal Orange County soils, EM can usually detect typical utility depths, often in the 1 to 10 foot range, and sometimes deeper. Accuracy on position is often within a foot laterally when signals are clean, but that assumes the line is continuous, properly bonded, and clearly accessible.

GPR depth penetration varies with soil type. In dry, sandy soils, GPR can see deeper, sometimes 8 to 10 feet or more. In wet, clay-rich or highly conductive soils, penetration can drop to just a few feet. "How accurate is ground penetrating radar?" is a nuanced question. GPR is excellent for detecting anomalies and pattern changes, but interpreting exact depths and shapes depends heavily on operator experience and ground truthing.

Overall, "How accurate [Orange County utility locating](#) is utility locating?" depends on:

- Record quality.
- Equipment choice.
- Operator skill.
- Site conditions such as soil type, congestion, and interference.

Professional locators typically mark to American Public Works Association (APWA) standards, which treat locates as approximate, not exact survey points. That is why safe digging practices still require hand digging or vacuum excavation within the tolerance zone around marks.

Utility marking colors in Orange County

The colored paint and flags that appear after you call 811 or hire a private locator follow a standardized color code. When people ask "What do utility marking colors mean?" they are usually seeing these:

Red indicates electric power lines, cables, conduit, and lighting. If you see red paint or flags, treat that area with respect. "What does red paint mean on the ground?" almost always means buried power or lighting.

Orange indicates communications, such as telephone, cable TV, fiber optic cable, and related structures. "What do orange utility flags mean?" typically means fiber or communications, and cutting those can be just as disruptive, and expensive, as hitting a power line.

Yellow marks gas, oil, steam, petroleum, or other gaseous materials.

Blue marks potable water.

Green marks sewer and drain lines.

Purple covers reclaimed water, irrigation, or slurry lines.

Pink is often used for temporary survey markings.

White paint is used for proposed excavation. If you see white paint on the ground, it usually means someone has outlined where they intend to dig. In fact, DigAlert strongly encourages excavators to "white line" their dig area before requesting 811 so locators know exactly where to focus.

These color meanings apply broadly, including in Orange County, but always read accompanying text or legends if present.

Locating specific types of buried utilities

Different utilities call for different techniques.

"How do you locate a buried water line?" depends on whether it is metallic and whether it has tracer wire. Metallic services can often be located with EM. Plastic services with tracer wire can also be traced. If there is no tracer wire, tools like GPR, acoustic correlation, or signal clamps on connected metallic components are used.

"How do you locate a buried gas line?" is similar. Many modern gas lines are plastic but include tracer wire for locating. EM locators find and trace that wire. Older metallic gas mains and services are typically straightforward with EM.

Sewer lines are often located using a combination of methods. "How do you locate a sewer line?" usually involves pushing a sonde or camera through the line from a cleanout, then tracking it from the surface. GPR can supplement this, especially for larger mains.

"Can you locate a septic tank?" In many cases, yes. GPR is particularly effective at finding the tank structure and field layout, especially where no accurate records exist.

Electrical and communications methods vary. "How do you find a buried electrical line?" typically uses direct connection EM locating when possible. "How do you locate a fiber optic cable?" often relies on the metallic sheathing, armor, or tracer wires associated with the fiber. Pure glass fiber alone is not conductive, so it cannot be located by EM without a conductive component.

"Can utility locators find plastic pipes?" Yes, but with caveats. Plastic without tracer wire requires GPR or other indirect methods. Detection is usually possible but tends to be slower and may be less precise than metal detection.

How much utility locating costs in Orange County

A common planning question is "How much does utility locating cost in Orange County?" The answer splits into two parts.

Public locating through 811 is free in California. When people ask "Is utility locating free in California?" they are really asking about the 811 public service. The cost is built into utility rates and is not billed directly to the caller.

Private utility locating is not free. "How much does private utility locating cost?" depends on scope, equipment, and reporting requirements. In Orange County, you might see:

- Simple residential EM locating with a small dig area: a few hundred dollars.
- Medium commercial sites with mixed utilities and some GPR: commonly in the mid hundreds to low thousands.
- Full subsurface utility engineering with detailed mapping, surveyed points, and CAD: several thousand dollars and up, depending on site size and complexity.

Who pays for utility locating comes down to who benefits from the excavation. For public 811 locates, utilities collectively fund the system. For private locating, the property owner, developer, or contractor typically hires and pays the locator as part of the project budget.

When comparing private locators in Orange County, focus less on the lowest price and more on experience, equipment, insurance, and responsiveness. "What is the best utility locating company in Orange County?" will vary by project type, but reputable firms are usually transparent about methods, limitations, and deliverables.

Permits, liability, and what happens if you hit a line

“Do I need a permit to dig in Orange County?” is a separate question from locating. If you are working in the public right of way, you will almost certainly need permits from the city or county, and possibly from Caltrans if you are near a state route. Private property work may require building, grading, or encroachment permits depending on depth, size, and purpose. Utility locating is a prerequisite, not a substitute, for permits.

“Who is liable if I hit a utility line?” Usually the excavator, especially if they failed to call 811, ignored the marks, or did not pothole to verify depth in the tolerance zone. Even if the marks are off, your legal exposure may depend on whether you followed safe digging practices.

“What happens if you cut a utility line?” ranges from nuisance to life threatening. Cutting fiber can knock out internet and phone for hundreds of customers. Hitting gas lines can lead to fires or explosions. Contacting electric lines can cause severe injury or death. On top of safety risks, you face repair bills, schedule delays, potential fines, and damage to your reputation with clients and agencies.

“How much does it cost to repair a damaged utility line?” varies dramatically. A small residential water service might cost in the low thousands including traffic control. A high-capacity fiber backbone or major gas main can run into tens or hundreds of thousands when you add emergency response, crew overtime, traffic impacts, and customer claims.

“What happens if I dig without calling 811?” in California can include financial liability for all related damages, potential enforcement actions, and in the worst cases, criminal consequences if negligence leads to serious harm. “Is it illegal to dig without calling 811 in California?” is effectively yes, in that state law requires notification before most excavations, and violations can be enforced.

Can you locate your own underground utilities?

Property owners sometimes ask, “Can I locate my own underground utilities?” or “How do I find underground utilities on my property?” as a way to save money.

You can do some basic research yourself. Speak with the local building department, review as-built plans if you have them, and call 811 for public locating. Metal detectors and DIY locators can occasionally find shallow metallic lines.

However, consumer-grade tools work poorly in congested urban environments and cannot safely locate many critical utilities. For anything beyond the most minor landscaping, the better question is “Should homeowners hire a utility locator?” If you are digging more than a small hand-dug planting hole, or anywhere near electric, gas, or sewer laterals, hiring a private locator is money well spent.

“Do I need a private utility locator?” becomes a firm yes if:

- You know you have private gas, power, or communications beyond the meter.
- You are building a pool, adding an ADU, or doing deep footings or retaining walls.
- You are working on a commercial or multifamily property with a history of remodels.
- The stakes of a delay or outage are high, as in hospitals, data centers, or schools.

Subsurface utility engineering and longer timelines

For major projects, simple painted marks are not enough. That is where subsurface utility engineering (SUE) comes in.

"What is subsurface utility engineering?" It is a formal process of investigating, surveying, and documenting underground utilities to defined levels of accuracy, usually described as Quality Levels D through A. SUE combines records research, EM locating, GPR, vacuum excavation test holes, and professional survey to create a utility map that designers and contractors can rely on.

**ORANGE COUNTY
UNDERGROUND
UTILITY LOCATING**

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SUE almost always stretches the timeline compared to basic locating, because it involves:

- More extensive site scanning with multiple techniques.
- Survey crews capturing horizontal and vertical positions.
- Engineers compiling data into CAD or BIM formats.
- Coordination with agencies and utility owners.

On a large Orange County project, SUE may run in parallel with early design over several weeks or months. The payoff is fewer surprises, safer construction, and fewer change orders.

How property owners can speed up the process

While you cannot control everything, you can do quite a bit to streamline utility locating on your site.

1. Clearly define your dig area. Use white paint or flags so both 811 locators and private locators know exactly where you plan to work.
2. Share what you know. Old plans, photos of previous trenching, or even a rough sketch of where lines enter buildings can save time.
3. Ensure site access. Unlock gates, move vehicles and materials off the locate area, and restrain pets so the locator can work without delays.

4. Schedule early. Call 811 and contact private locators well before you order concrete or schedule excavation crews.
5. Decide your risk tolerance. If the work is sensitive or high value, budget for more thorough SUE upfront rather than scrambling once a conflict appears.

Locators work faster and more accurately on sites that are clean, accessible, and well defined.

How long does utility locating take, in plain terms?

Bringing it back to the core question, here is what most Orange County excavators experience, in practical terms.

For a typical homeowner replacing a driveway or adding a small addition, you will call 811 at least two working days ahead, ideally three to five. The public locates will appear within that window. If you also hire a private locator, expect one to five days of lead time for scheduling and one to two hours on site. All told, you should plan a week between your first call and being truly ready to dig safely.

For a modest commercial project, allow a week or two. That covers 811 response, private locating, and time to resolve any surprises or conflicting marks. If your design team wants drawings or utility maps, add several more days.

For major developments and infrastructure projects, fold subsurface utility engineering into your early design timeline and think in weeks to months, not days. Those projects often involve multiple rounds of locating, test holes, and coordination with utilities and agencies.

The common thread is that good utility locating is an integral part of project planning, not a last-minute checkbox. When treated that way, it protects people, schedules, and budgets with far less drama than repairing a line you never knew was there.

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