

If you move dirt in Orange County, you are taking on utility risk whether you realize it or not. Hitting a buried electrical line, gas service, fiber optic cable, or water main can turn a simple project into a safety emergency and a five figure repair.

That is why utility locating exists. The question most homeowners and contractors ask is simple: how much does utility locating cost in Orange County, and when is the free 811 service enough?

As someone who has sat on both sides of the fence - hiring locators as an owner and managing subs as a contractor - I can tell you the cost of locating is almost always tiny compared with the cost of getting it wrong. The details matter though: public vs private, type of project, and the technology you need all affect the price.

This guide walks through how utility locating works, what 811 does and does not cover, what private utility locating costs in Orange County, and how to decide the right level of service for your project.

What utility locating actually is

At its simplest, utility locating is the process of finding and marking underground pipes and cables before any digging, drilling, or trenching. In practice, it is a mix of geophysics, detective work, and field experience.

When someone calls and asks, "What is utility locating?" I describe it as three things:

1. Research: reviewing as-builts, utility records, and site history when available.
2. Detection: using instruments that can detect metal conductors, tracer wires, or changes in the soil to locate buried utilities.
3. Marking: painting or flagging on the surface to show horizontal location, depth estimates, and type of utility, using standardized colors.

What does a utility locator do on site?

On a typical residential or light commercial site in Orange County, a good utility locator will:

Walk the site to understand access, planned excavation, and any visible appurtenances such as meters, valves, pedestals, and cleanouts.

Connect an electromagnetic (EM) transmitter to metallic lines where possible, such as electrical conduits, communication lines, and metal water or gas pipes. The receiver then follows the signal to trace the route.

Use ground penetrating radar (GPR) to scan for non conductive utilities where EM cannot pick them up, such as PVC water lines, some sewer laterals, irrigation lines, and some plastic gas piping.

Use sondes or tracer rods for sanitary sewers and conduits. For example, a sonde may be flushed down a cleanout, or a traceable rod may be pushed through a duct, then followed with a receiver.

Mark the utilities on the surface with paint and flags, label the type of utility and direction, and, when requested, record measurements or provide a sketch, photos, or CAD/GIS output.

Answer your questions about what was found, where there is uncertainty, and what areas remain "unknown" due to access or limitations of the equipment.

On complex commercial or public projects, this work may fit into a formal subsurface utility engineering (SUE) program, with defined quality levels and deliverables. For a homeowner adding a pool or ADU, it is usually a focused locate and mark service.

Public vs private utility locating in California

Understanding the difference between public and private utility locating will save you money and reduce risk.

Public utility locating refers to the services provided through 811, funded by utility owners. These locate the utility company owned portions of the lines.

Private utility locating is performed by companies you hire directly. They locate the customer owned portions of the network and anything not covered by the utility providers.

Is utility locating free in California?

Utility locating through 811 is free in California for public utilities. When you contact 811, the one-call center notifies each participating utility company in your area. Those utilities then send their own locators or contracted locators to mark their lines, at no cost to you. You do not receive a bill for that work.

This free service, however, has limits that matter.

What does 811 not locate?

811 arranges locating only for facilities that the member utilities own and maintain. In California, that usually means up to the meter, shutoff, or point of demarcation.

Here is what 811 typically does not locate in Orange County:

Private water lines from the meter to your house, irrigation, or outbuildings.

Private gas lines running from your meter to a pool heater, outdoor kitchen, or detached structure.

Electrical lines after the main meter or service disconnect, including lines to detached garages, sheds, landscape lighting, gates, and signs.

Private sewer laterals beyond the point owned by the city or utility (ownership lines vary by jurisdiction), septic tanks, and leach fields.

Private communications, security, and fiber optic cables inside your property.

Storm drains, drainage lines, and French drains that are privately installed.

So when people ask, "Does 811 locate private lines?" the honest answer is: almost [Orange County hydro excavation](#) never. If you have anything on your property that was installed by a contractor you hired, and it is not clearly a public franchise utility, assume 811 will not mark it.

Is calling 811 the law in California?

Yes. California law requires that you notify the regional notification center, DigAlert (811), before almost any excavation. That includes digging for foundations, pools, fences, retaining walls, tree planting, trenching, and even driving ground rods in some cases.

If you ask, "Is it illegal to dig without calling 811 in California?" the practical answer is yes for most construction activities. Failing to notify 811 can trigger fines, shift liability squarely onto you, and, more importantly, increase the chance of a serious utility strike.

For Orange County, the answer to "Who do I call before digging?" is straightforward: call 811 or submit a ticket through DigAlert at least two working days before you start work, then consider hiring a private utility locator for everything 811 does not cover.

When you need a private utility locator

Once the 811 marks are on the ground, homeowners and contractors often look at all the flags and assume everything is now covered. It is not.

“Do I need a private utility locator?” comes down to a few questions:

Are you digging only in the public right of way, or also on private property?

Are there private improvements such as pools, outdoor kitchens, fire pits, detached garages, big landscape lighting systems, or ADUs?

Is your work deep or invasive, such as piers, caissons, pool excavations, or large retaining walls?

Are you saw-cutting or trenching across the unmarked area between the meter and the house or equipment?

If the answer to any of these is yes, and you care about safety, schedule, and liability, you probably do need private utility locating.

For homeowners, the typical trigger is a backyard remodel or pool. For contractors, it is almost any project that goes beyond shallow trenching in a freshly built subdivision.

How utility locating works in practice

Technically, utility locating uses a mix of methods since no single technique finds everything.

Electromagnetic locating

Electromagnetic (EM) locating is the workhorse. The locator applies a signal to a conductive line and then detects the electromagnetic field at the surface.

EM works well for:

Metal water pipes.

Metallic gas services.

Copper, aluminum, or steel electrical conduits and direct buried conductors.

Communication cables with metallic sheathing.

Tracer wires that are installed with non metallic utilities.

“How deep can utility locators detect?” with EM depends on soil conditions, line size, and signal frequency, but in Orange County, practical locating depth is usually in the range of 8 to 12 feet for most field conditions. Under ideal circumstances, EM can exceed that, but accuracy decreases with depth.

Ground penetrating radar

Ground penetrating radar sends radio waves into the ground and reads the reflected signals. Changes in material, such as a buried pipe or duct bank, create reflections that a trained operator can interpret.

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

Finding non conductive utilities such as PVC water lines, some gas lines, storm drains, and sewers without tracer wires.

Confirming the position of utilities in congested areas where EM signals bleed or cross couple.

Verifying utility depth estimates.

Locating abandoned structures, tanks, and foundation remnants that do not have records.

People often ask, "Can utility locators find plastic pipes?" With GPR, often yes, especially in dry, sandy, or moderately clayey soils. Orange County's soil conditions vary by area, but many coastal and inland valley sites respond well to GPR, while high clay or saturated conditions can reduce clarity.

"How accurate is ground penetrating radar?" depends heavily on the operator and soil. For utility depth on a good site, GPR can usually resolve depth within a few inches to a foot for shallow lines, with horizontal position often within 6 to 12 inches. That accuracy drops for deeper lines or in poor GPR conditions.

Overall accuracy of utility locating

Assuming a competent locator and decent conditions, "How accurate is utility locating" in general?

Public 811 marks, using standard locating methods, are typically considered accurate to within about 18 to 24 inches horizontally in the field. Some will be better, some worse, especially in crowded corridors.

Private locators using a combination of EM, GPR, and records can often tighten that a bit, but no honest locator will claim to know exact centerline at all depths. That is why good standards call for test potholing to prove the exact position of critical utilities before heavy excavation.

For engineering level work, subsurface utility engineering (SUE) uses defined quality levels:

Quality Level D: records only, no field verification.

Quality Level C: surveyed visible features and records.

Quality Level B: instrument based locating.

Quality Level A: exposed utilities by vacuum excavation with surveyed positions.

For a homeowner's pool dig, you rarely need formal SUE reporting, but you absolutely want work equivalent to at least Quality Level B in the area of your excavation.

Utility marking colors in Orange County

Utility marking colors follow the American Public Works Association (APWA) standard, which Orange County agencies and most private locators use.

When you ask, "What do utility marking colors mean?" here is the cheat sheet.

[First list]

- Red: electric power lines, lighting cables, and associated conduits. If you see red paint or flags, you are dealing with electrical. "What does red paint mean on the ground?" Usually, there is a power line or conduit below. Treat these with extreme caution.
- Orange: communications, alarm or signal lines, cables, or conduits. "What do orange utility flags mean?" Typically fiber optic, telephone, cable TV, or data. Cutting an orange line may not shock you physically, but it can carry a heavy financial penalty.

- Blue: potable water. Often the line from the street main to your meter is marked in blue. Your private water line beyond the meter may not be, unless a private locator has been hired.
- Yellow: gas, oil, steam, petroleum, or gaseous materials. If you are asking, "How do you locate a buried gas line?" public gas utilities will mark to the meter in yellow when you call 811. Private gas piping beyond that will require a private locator.
- Green: sewers and drain lines. "How do you locate a sewer line?" often involves tracing from cleanouts, using cameras and sondes, and marking in green.

Other common colors: purple for reclaimed water, irrigation, or slurry lines, white for "proposed excavation" areas, and pink for temporary survey markings.

That white paint you sometimes see striping a lawn or driveway is not a utility; it is simply showing where a contractor plans to dig or sawcut. "What is the white paint on the ground for?" It is your dig outline, which helps 811 and private locators know what to cover.

[End of first list]

How long utility locating takes

"How long does utility locating take?" has two parts: scheduling and field work.

In Orange County, calling 811 must be done at least two working days before you dig, not counting the day you call. Many contractors plan three to five business days to be safe, especially near weekends or holidays.

On site, most residential 811 markings take under an hour per utility. For private utility locating, a standard single family home with a typical yard and a few outbuildings usually takes between 60 and 120 minutes on site. Complex properties with pools, extensive landscaping, or multiple structures can run several hours.

For larger commercial or public projects, full SUE investigations can take days or weeks, including office work and deliverables.

Cost of utility locating in Orange County

Now to the question that drives most inquiries: "How much does utility locating cost in Orange County?"

Typical cost structure

Private utility locating companies in Orange County generally charge in one of three ways:

Flat rate per residential visit, usually based on lot size and scope.

Hourly rate for field time, sometimes with minimum charges.

Project based quotes for larger commercial or SUE work.

"How much does private utility locating cost?" depends on the mix of EM and GPR, site complexity, and deliverables.

Typical price ranges

These ranges are based on what owners and contractors commonly see in Orange County for reputable private locating firms. Actual quotes will vary, but for planning purposes:

[Second list]

- Standard residential locate - Single family home, front and back yard, EM locating of known utilities, limited GPR as needed: commonly in the range of \$250 to \$450 per visit. Complex properties, large lots, or hillside access challenges can push this higher.
- Residential with extensive GPR - Pool sites, hillside work, or properties with known private utilities and poor records may run \$400 to \$800, especially if several hours of GPR scanning are necessary.
- Light commercial or small multifamily - Hourly or day rates are more common. Expect roughly \$175 to \$275 per hour for field locating with EM and GPR, often with a 2 or 3 hour minimum.
- Larger commercial, industrial, or SUE projects - These are usually quoted per project. Full SUE Quality Level B, with mapping and CAD deliverables, might range from a few thousand dollars on a small site to tens of thousands on a large or complex corridor.
- Emergency or off hour service - If you need a locator same day or after hours, expect premium rates, often adding 25 to 100 percent over standard pricing.

[End of second list]

Keep in mind that these fees are nearly always paid by the property owner, general contractor, or project developer. "Who pays for utility locating?" For public utilities, the utility companies fund 811. For private locating, you do.

Why the cost is usually worth it

When someone balks at a \$400 private locating fee and asks, "Can I locate my own underground utilities?" I usually share a few hard earned observations.

Utility maps are often incomplete or wrong by several feet. Tracer wires are sometimes broken or never installed. Previous homeowners or contractors may have run "just a quick line" for a shed or pool heater with no records at all. Visual inspection from surface features can be very misleading.

On the other side of the scale, "How much does it cost to repair a damaged utility line?" can be sobering:

Clipping a small communication or cable TV drop may cost a few hundred dollars, plus potential claims if a business is affected.

Damaging a buried fiber optic cable can easily cost \$5,000 to \$20,000, sometimes more, especially if it serves a business park or critical facility.

Breaking a residential water service is often \$1,000 to \$3,000 depending on location and restoration.

Hitting a gas main or significant service line can lead to emergency response, fire risk, evacuations, and five or six figure repair and claim totals.

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Striking electrical can add the risk of serious injury or death, along with expensive fault locating and repairs.

"Who is liable if I hit a utility line?" depends on many factors, including whether you called 811, followed markings, and dug carefully. If you did not contact 811, or you ignored obvious utility indicators, you and your insurer may end up paying the full bill. "What happens if I dig without calling 811?" in California can include fines, liability for all damages, and, in the worst case, criminal exposure if someone is hurt.

When you weigh a few hundred dollars in private locating against even the low end of those repair numbers, the math gets simple.

Practical locating questions homeowners ask

Homeowners in Orange County often have very specific questions about their properties. A good locator should be able to help with all of the following.

"How do you locate a buried water line?" For the public side, 811 will handle it, usually tracing from the main to the meter. For your private side, a locator will look for accessible metal, tracer wire, or use GPR to find the alignment. Sometimes, they inject a tone onto an interior pipe and pick it up outside.

"How do you locate a buried gas line?" Similar approach: 811 for public side up to the meter, private locator from the meter onward. Gas lines are often steel or CSST in conduit, which EM can trace, but newer plastic services may need GPR and careful inference.

"How do you locate a sewer line?" Often a mix of pipe cameras and sondes pushed down cleanouts, sometimes combined with GPR. The locator follows the sonde signal on the surface and marks the route and depth.

“Can you locate a septic tank?” Often yes. GPR is commonly used for that purpose. The radar detects the top of the tank or the contrast between the tank and surrounding soil. Leach fields are sometimes visible on GPR and sometimes inferred from patterns.

“How do you find a buried electrical line?” EM locating is very effective for energized lines. The locator can connect at a panel, transformer, or pedestal, then trace the route. De energized lines can sometimes be located using induction or by connecting directly to the conductor if accessible.

“How do you locate a fiber optic cable?” Fiber itself is non conductive, but most outside plant fiber is in metallic sheathing, armored, or installed with tracer wire. EM can then trace it. Where no metal is present, GPR and record review become more important.

For each of these, the locator will also tell you where they are not confident. A big part of professional locating is drawing a clean boundary between known, suspected, and unknown, so you can decide where to pothole or adjust the design.

Permits, timing, and process in Orange County

“Do I need a permit to dig in Orange County?” depends on where and what you are digging.

Inside private property for small landscape projects, most cities do not require a separate excavation permit, but structural work, retaining walls, swimming pools, ADUs, and utility connections almost always trigger permits. Any work in the public right of way, such as sidewalk replacement, drive approach work, or utility tie ins, typically requires permits from the city or county and sometimes the utility owner.

Regardless of permits, 811 remains mandatory. For planning purposes:

Try to contact 811 at least three working days before excavation.

Schedule your private utility locator to arrive after utility marks are visible, but before your start date. This reduces site confusion, since they can focus on the gaps.

Explain your dig limits clearly and be present or have a knowledgeable supervisor on site to walk the locator through the plan.

For homeowners asking, “How do I find underground utilities on my property?” the best process in Orange County is:

Call 811 and get public marks on the ground.

Hire a reputable private locator to sweep the property where you plan to dig.

Ask for an explanation of what was found, and note any “no locate” areas or uncertainties.

Plan for test potholing near critical marks before you bring in heavy equipment.

Choosing a utility locating company in Orange County

Anyone can buy a locator online. That does not make them competent in the field. So when someone asks, “What is the best utility locating company in Orange County?” the practical answer is: the one that combines solid equipment with experienced operators and clear communication.

Look for companies that:

Use both EM locating and GPR, not just one or the other.

Can explain their process, limitations, and how they handle plastic pipes, deep utilities, and congested corridors.

Provide clear markings and, if needed, sketches, photos, or digital deliverables.

Carry appropriate insurance and can provide references from contractors or engineers.

Treat your questions seriously, and do not promise infallible results. If a locator claims 100 percent accuracy in all conditions, be cautious.

Should homeowners hire a utility locator?

For shallow yard work far from utilities, such as planting small shrubs away from service corridors, 811 alone may be enough. You still need to respect the tolerance zones around marks and hand dig carefully.

For anything involving deeper excavation, equipment, or work near the path between the street and your house, “Should homeowners hire a utility locator?” has a simple practical answer: usually yes.

The cost is modest, the safety margin is real, and if anything does go wrong, being able to show that you hired qualified professionals often helps in any insurance or legal aftermath.

A quick checklist before you dig

Here is a compact way to think about it before any excavation in Orange County:

Call 811 through DigAlert and get public utilities marked. It is free and required by law.

Walk your property and note every feature that suggests a buried line: meters, valves, cleanouts, pool heaters, detached structures, low voltage landscape lighting, and irrigation manifolds.

Ask yourself where private lines could logically run, especially from the meter to the house, from the house to outbuildings, and between features like pool equipment and the pool.

Hire a private utility locator if your digging overlaps any of those likely corridors or goes deeper than simple hand work.

Plan to pothole by hand or with vacuum excavation along critical marks before you bring in machinery.

Utility locating is not about avoiding every possible risk. It is about taking reasonable, professional steps so you know what is under your feet before the bucket hits the ground. In Orange County, where existing utilities can be dense and expensive, spending a few hundred dollars on private utility locating is often one of the cheapest forms of insurance you can buy.

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