

Finding a buried sewer line or septic tank is one of those jobs that sounds simple until you actually try to do it. In Orange County, with small lots, dense neighborhoods, and a mix of older and newer construction, the picture underground is often much more complicated than people expect.

If you are planning to add a room, install a pool, plant trees, or repair drainage, you need to know exactly where your waste line runs, whether you are tied into a public sewer or a private septic system, and what other utilities share that space. Guessing is how expensive mistakes happen.

This is where utility locating comes in.

What utility locating actually is

Utility locating is the process of finding and marking underground utilities before digging. That includes water, sewer, gas, electrical, communications, and sometimes storm drains or irrigation.

On a typical Orange County residential lot, there are two categories:

1. Public utilities: The lines owned and maintained by utility companies or public agencies, usually from the street to the public mains.
2. Private utilities: Everything on your side of the utility meter or cleanout, generally within your property line, plus any privately installed lines like landscape lighting, backyard gas lines, or private sewer laterals beyond what the utility assumes responsibility for.

Public utility locating is what you get when you call 811. Private utility locating is what you hire a specialist company to do when you want the rest of the picture.

Both matter if you are trying to locate a sewer line or septic tank.

What does a utility locator do?

A competent utility locator does much more than wave a wand and spray paint lines on your lawn.

They interpret records and as-built drawings when available, walk the site to look for clues, use specialized instruments to trace conductive lines and nonconductive pipes, and reconcile conflicting information. On residential properties that often means figuring out where the sewer line actually runs compared to where the original plans say it should have gone.

In practice, the job includes:

- Identifying which utilities are present on site, public and private
- Determining ownership boundaries between public mains and private services
- Selecting the right tools for each type of line or pipe
- Marking horizontal position on the ground and estimating depth
- Explaining limitations and confidence level so you know where the risk still lies

When the goal is to locate a sewer line or septic tank, a good locator often works in stages: first, confirm where the home's waste pipe leaves the building, then trace it outward, then verify terminations at the public main or the septic tank.

Public vs private locating in California and Orange County

Understanding who covers what will save you time and frustration.

Public utility locating in California is handled through the 811 system, legally known as Underground Service Alert. When you contact 811 in Orange County, the service notifies participating utilities that you intend to dig. Those utility companies then send their own locators (or contractors) to mark their facilities in the public right of way and, in many cases, up to your meter or point of service.

Key boundaries you will see in practice:

- Water: The public water agency typically owns the line up to and including the meter. The service line from the meter to the house is usually private.
- Gas: SoCalGas usually owns up to the meter. Any gas piping from the meter into the home or yard is private.
- Electric: The utility side covers up to the meter or service point. Anything downstream is private.
- Sewer: The split varies. Some agencies own the main in the street and the connection at the main, with the lateral on private property considered private. Others take responsibility up to a certain point. In any case, cleanouts on your property are almost always on the private side.

So what is the difference between public and private utility locating in practical terms? Public locating through 811 is free but limited to what the utilities own. Private utility locating is paid and fills in the gaps on your side of those ownership lines.

Is utility locating free in California?

Public locating through 811 is free in California for homeowners, contractors, and anyone planning to dig. That includes Orange County.

Private utility locating is not free. You hire a private utility locator when you need:

- The path of your sewer lateral across your yard
- Septic tank and leach field locations
- Private water and gas lines from the meter to the house, pool, or BBQ
- Landscape power, low voltage lighting, or private communications cables
- Confirmation that an area is clear of unknown lines before excavation

Who pays for utility locating on a private project? If you are a homeowner doing the work yourself, you do. On a construction or remodel job, it is typically built into the contractor's costs. Some contractors call and pay for private locators directly, others require the owner to arrange it. Clarify that early.

What 811 does not locate

Many homeowners in Orange County expect 811 to mark everything underground on their property. It does **Orange County Utility Locating** not work that way.

811 locators do not typically mark:

- Private sewer laterals beyond the public agency's responsibility
- Septic tanks or leach fields
- Private water lines from the meter to the home or irrigation system

- Private gas lines that serve pools, outdoor kitchens, or detached structures
- Electrical lines beyond the meter on private property
- Fiber optic or communications cables that are privately installed, like from a main building to a guest house

Does 811 locate private lines at all? In some rare cases, a utility may voluntarily mark a bit beyond the traditional boundary. You cannot rely on that, and it is not a substitute for a private locator when the risk is significant.

Is calling 811 the law in California?

Yes. In California, calling 811 before you dig is not just a safety tip, it is a legal requirement for most excavation activities. The law applies broadly to contractors and to homeowners doing their own digging, especially when using power equipment or digging deeper than a shallow gardening project.

Is it illegal to dig without calling 811 in California? If your excavation hits a line and you did not contact 811, you are almost certainly on the hook for damages, and you may face penalties. Even if you never hit anything, failing to notify 811 can still technically be a violation if you were required to call.

In Orange County, if you ask your building department who you should call before digging, they will tell you: start with 811, then follow up with any required permits and, when appropriate, hire a private locator to mark your own lines.

Why locating sewer and septic lines matters so much

Sewer and septic systems are forgiving in one way: they tend to keep working until something goes very wrong. That lulls many property owners into ignoring their exact layout. Problems surface when you:

- Plan to install a pool or spa and the best location sits on top of your sewer lateral
- Add a room addition directly over a septic tank or leach field
- Deep trench for a foundation or retaining wall through the waste line
- Plant large trees whose roots will invade or crush shallow sewer pipes

From a risk standpoint, cutting a sewer line is bad but usually fixable. Cutting a gas line can be catastrophic. Still, repairing a damaged utility line of any type is not cheap. A broken residential sewer lateral in Orange County might cost a few thousand dollars to fix in open ground, but if it is under a driveway or new patio, the cost can multiply quickly. If you hit a fiber optic cable that serves a business, the repair bill can be staggering.

Who is liable if you hit a utility line? If you failed to call 811 or ignored the marks, you are almost always responsible, both for the repair and for any related damages. If you did call, waited the required time, and dug carefully within the rules, liability may shift partially or fully to the utility or locator, depending on circumstances. This is another reason to document your 811 tickets and any private locating you hire.

How utility locating works in the field

Technically, utility locating relies on a few main methods, used alone or in combination.

Electromagnetic locating is the workhorse for conductive utilities like metal pipes and cables. A transmitter applies an electrical signal to the line, either directly or inductively. A receiver then detects that signal at the surface and guides the locator along the path. This is how we often trace buried water lines, gas lines, electrical conductors, and some sewer lines that contain metal components or a conductive tracer wire.

Ground penetrating radar (GPR) is used to find nonconductive features by sending high frequency radio waves into the ground and measuring reflections. Different materials reflect differently, so pipes, voids, and tanks show up as characteristic patterns on the radargram. What is ground penetrating radar used for in this context? Typically to locate plastic pipes, septic tanks, buried structures, and to verify clear zones for excavation.

Sondes and traceable rods come into play when you need to locate a sewer line, storm drain, or conduit that electromagnetic locating cannot pick up directly. A sonde is a small transmitting device that can be pushed or flushed down a pipe. The locator tracks the sonde from the surface as it moves along the pipe path. This is useful for both sewers and for locating a buried electrical line inside a nonmetallic conduit.

How deep can utility locators detect? With electromagnetic methods, typical depth ranges for residential work are up to 8 to 10 feet, sometimes more in favorable conditions. GPR in Orange County soils often works well in the top 3 to 6 feet, with decreasing clarity in deeper, wet, or highly clayey ground. Can utility locators find plastic pipes? Yes in many cases, but not as reliably as metal. Plastic water and sewer lines often require GPR, sondes, or prior installation of trace wires to be located well.



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(408) 988-0101
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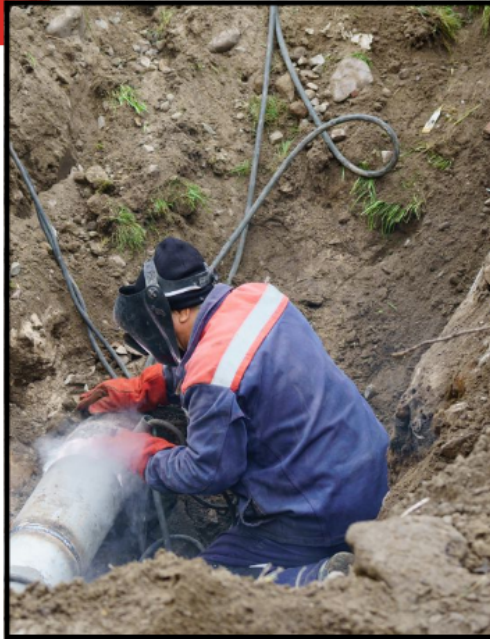


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How accurate is utility locating? When done properly, horizontal accuracy for many lines is often within a foot or less. Depth estimates are less precise and depend on soil conditions and method. Good locators will tell you their confidence level and whether you should hand dig to confirm before using heavy equipment.

How long does utility locating take?

For a typical single family residential property in Orange County, a private utility locating visit usually takes 1 to 3 hours, depending on:

- The size and complexity of the property
- The number of utilities present
- Whether you are also locating a septic tank or only a sewer lateral
- How much record information you have

Large sites, older properties with undocumented modifications, or homes with multiple additions can take longer. Public locating through 811 is scheduled differently. You must call at least two working days before you dig in California. Utilities then have a set window to mark their lines.

If you are coordinating private and public locating, it often works best to call 811 first, then schedule the private locator once the public marks are down, so the private locator can see and build on that information.

What equipment do utility locators use?

On a real job, you will often see a mix of tools, not just one gadget. Common equipment includes:

- Electromagnetic locators with transmitters and receivers for tracing conductive utilities

- GPR carts or antennas for nonconductive plastic pipes, tanks, and unknown structures
- Camera systems for sewer and drain inspection, sometimes with sondes attached
- Traceable fiberglass rods for pushing a signal into empty conduits or drains
- Metal detectors and magnetometers for valves, buried covers, and rebar mapping

Experienced locators do not just trust the screen. They cross check methods, look at how markings interact, and compare findings **Orange County Utility Locating** to site features and known connection points.

Utility marking colors in Orange County

When you see colored paint or flags on the ground, you are looking at a standardized code defined by the American Public Works Association. The meaning is the same throughout Orange County.

A short reference, since many homeowners ask:

- Red paint or red utility flags mean electric power lines, cables, and lighting.
- Orange markings flag communications, cable TV, and fiber optic cable routes.
- Yellow is for gas, oil, steam, and other fuel lines.
- Blue marks potable water lines.
- Green is for sewer and drain lines.
- Purple usually means reclaimed water, irrigation using recycled water, or slurry lines.
- White paint on the ground is not a utility at all. It shows proposed excavation limits, drawn by the excavator or homeowner to tell locators where you plan to dig.

If you see red paint near where you plan to trench, that is your electrical hazard zone. If you see green lines, you are looking at sewer or storm drainage paths. Utility marking colors are there to keep you from guessing.

How to tell if you are on sewer or septic in Orange County

Before you can locate a septic tank, you need to know whether you have one.

Most urban and suburban neighborhoods in Orange County are on public sewer systems. Septic systems are more common in older, more rural pockets, hills, and canyon areas that were developed before sewer mains were widely available.

Clues that you are on a public sewer:

- You pay a sewer fee to a city or sanitary district on your utility bill.
- There are sewer manholes in your street and your home is in a typical subdivision.
- Contractors and inspectors refer to a “sewer lateral” connection on your property.

Clues you might have a septic system:

- Your property is in a canyon, hillside, or formerly unincorporated area.
- You do not see a separate sewer fee on your property tax or utility bill.
- Old records, inspections, or neighbors mention a septic tank.
- You recall pumping services or inspections at some point.

If you are unsure, your city, water district, or sewer agency can often confirm whether your parcel is connected to sewer. Septic properties should also have documentation in county records, though older systems are not always

perfectly documented.

How to locate a sewer line on private property

When I work with homeowners who want to know, "How do you locate a sewer line?" the process usually follows a pattern.

First, find the main building cleanout. This is typically a capped pipe near a bathroom wall, in a side yard, or just outside a foundation. In many Orange County homes built after the 1960s, the main cleanout is easy to spot. In older homes, it might be hidden behind landscaping or buried slightly.

Second, determine the direction of flow away from the building. Gravity sewer pipes always slope downward toward the main or the septic tank. By looking at the layout of the bathrooms and the street, you can usually guess whether the line heads front, side, or rear.

Third, use a sewer camera with a sonde to trace the line. The camera gets inserted into the cleanout and pushed downstream. The locator tracks the sonde from the surface, marking the path and depths along the way. If the line runs to a septic tank, you see a clear termination at the tank lid. If it continues to the street, you can often see the connection at the public main.

In some cases, especially with newer PVC sewers, the pipe itself is not conductive. That is when the camera and sonde method shines. Where no access for a camera exists, a locator may instead use GPR to look for the trench and pipe signature, but that is less precise without internal access.

Can you locate a septic tank?

Yes, in most cases a septic tank can be located on a residential parcel in Orange County, but it is not always easy.

Locating typically uses a mix of methods:

- Tracing the sewer line with a camera and sonde until it reaches the tank
- Using GPR to detect the tank structure itself, which reflects differently than soil
- Probing the ground gently to feel for the tank top, where permitted and safe
- Reviewing old septic permits, which often include sketch maps and dimensions

Heavily landscaped yards, multiple additions over the years, or old, abandoned tanks can all complicate the picture. In hilly areas, tanks are sometimes placed upslope, not downslope, which goes against most people's intuition. A good locator will factor in setbacks and old design rules to narrow the search.

How do you find other buried utilities on your property?

The techniques for sewer and septic apply broadly to other lines.

To locate a buried water line, you often start at the meter and use an electromagnetic locator to follow the service toward the house. If the water line is plastic without tracer wire, GPR or correlation with known entry points helps. Knowing where the main shutoff enters the home is useful.

To locate a buried gas line, the same electromagnetic approach works well for metal pipes. For plastic gas lines with tracer wires, the wire becomes the target. Where neither is present, GPR and careful probing are used. Gas lines must be treated with extra caution.

To find a buried electrical line, you typically connect directly to the conductor or to a conductive sheath and trace it with an electromagnetic locator. For nonmetallic conduits, traceable rods or a sonde can be pushed through the conduit to create a signal to follow.

To locate a fiber optic cable, the locator looks for conductive elements like locatable sheaths or tracer wires. If those are missing, GPR and records are the primary tools. Fiber is very sensitive to damage. Striking one can lead to high repair bills and significant service disruptions.

Should homeowners hire a private utility locator?

Many homeowners ask whether they can locate their own underground utilities. There are small consumer grade locators on the market, and for very simple cases they can help. But the risk lies in what you miss.

You should strongly consider hiring a private utility locator when:

- You are doing any excavation deeper than a foot or two in an area with unknown utilities.
- You plan to dig near obvious connection points, like between the meter and the house.
- You have a septic system and want to build or plant near where the tank or leach field might be.
- The project budget is large enough that a utility strike would be a serious setback.

How much does private utility locating cost in Orange County? For a typical single family home, basic private utility locating often ranges from around a few hundred dollars to the low four figures, depending on the scope. Locating a simple sewer lateral only is cheaper than a full site utility map with GPR and sewer camera work. Complexity, access, and travel all influence price. Ask for a clear scope and written estimate.

Is there such a thing as the best utility locating company in Orange County? Different firms specialize in different niches. Some are geared toward large commercial and subsurface utility engineering (SUE) projects. Others focus on residential work with quick response times. Look for current licenses where required, insurance, experienced technicians, and a willingness to explain their methods and limitations.

Subsurface utility engineering and larger projects

For significant construction or infrastructure work, utility locating ties into subsurface utility engineering. SUE is a structured process of investigating, documenting, and managing underground utilities, often classified by quality levels from basic record research (QL-D) all the way to precise horizontal and vertical positions confirmed by potholing (QL-A).

On a large Orange County project, engineers may combine records, surveying, locating, and test holes to reduce risk before major excavation. Residential projects rarely require formal SUE, but the same principles apply: use records, locate what you can, verify critical conflicts with exposure, and do not rely on a single information source.

Permits, timing, and practical steps in Orange County

Do you need a permit to dig in Orange County? It depends on what you are doing and where. Shallow landscape work on your own property may not require a permit, but retaining walls, pools, foundations, and any work in the public right of way usually do. Your city or the County planning and building department can clarify.

How far in advance do you need to call before digging? In California, the standard is at least two working days before you excavate, excluding weekends and holidays. Complex projects benefit from more lead time so you can coordinate 811 marks, private locating, and any required permits.

A simple, practical sequence for many homeowners looks like this:

- Contact 811 and mark your proposed excavation area with white paint so locators know where to focus.
- Receive and document the public utility markings. Take photos.
- If you are working near the home, in the backyard, or anywhere private lines might be present, hire a private utility locator to expand the picture.
- Review the markings with your contractor, adjust plans if needed, and plan any hand digging to verify depths and exact positions in sensitive zones.

Once you develop the habit of treating the ground as occupied territory rather than empty space, projects tend to go more smoothly.

Locating a sewer line or septic tank on private property in Orange County is rarely just a matter of guessing based on where the bathroom is. It involves understanding who owns which piece of pipe, what 811 will and will not do for you, and how professional utility locators use tools like electromagnetic receivers, GPR, and sondes to convert invisible infrastructure into painted lines and practical decisions. With that knowledge, you can plan your work, keep workers and utilities safe, and avoid turning a simple project into an emergency repair.