DIGGING SAFELY

Damage Prevention is a Shared Responsibility

Steve Cleaver
Senior Investigator
Dig-in Reduction Team (DiRT)

2017
Welcome!

Objectives

- Know and understand current laws governing excavations
- Know how this applies to and affects your businesses
- Know the **Call 811 Before You Dig** process
- Avoid damages to underground utilities
- Connect with additional resources
- Develop a plan to stay in compliance with laws and safe practices

The One Call Process: In partnership with California Regional Common Ground Alliance (CGA)
Legal Definition of “Excavation” (Digging)

“Excavation” means any operation in which earth, rock, or other material in the ground is moved, removed, or otherwise displaced by any means of tools, equipment, or explosives in any of the following ways:

- grading,
- trenching,
- digging,
- ditching,
- drilling,
- augering,
- tunneling,
- scraping,
- cable or pipe plowing and driving

or any other way.
GOVERNMENT CODE SECTION 4216.9(a)

No permit to excavate issued by any local agency, as defined in Section 4216, or any state agency, shall be valid unless the applicant has been provided an initial inquiry identification number by a regional notification center pursuant to Section 4216.2. For purposes of this section, "state agency" means every state agency, department, division, bureau, board, or commission, including the Department of Transportation.
Common Digging Issues Causing Dig-Ins

- No USA ticket – “know where line is”
- Expired USA ticket – no call for re-mark
- Digging outside delineated area
- Not hand digging to safely expose utilities
- Hitting lines with power operated tools/backhoes
- Not confirming positive response from all operators
- While excavation is open – failure to protect exposed utility lines
Striking Utilities Is Dangerous & Costly

Bakersfield gas line explosion.
Striking Utilities Is Dangerous & Costly
Striking Utilities Is Dangerous & Costly
Striking Utilities Is Dangerous & Costly

Bulldozer clearing brush from flood control canal strikes natural gas transmission line.

Excavator had no USA Ticket.

The One Call Process: In partnership with California Regional Common Ground Alliance (CGA)
Impacts Public Safety Resources

The One Call Process: In partnership with California Regional Common Ground Alliance (CGA)
Natural Gas Ignition Outside

Excavator damages gas line in Cleveland, Ohio.
Natural Gas Ignition Inside

- Construction crew installing a traffic signal.
- Struck 4 inch high pressure natural gas line.
- 4 hours later, 4th structure (upper left corner) explodes after filling with natural gas.
The 811 Process
The One Call Process: Overview

- **Step 1:** Mark your area in white
- **Step 2:** Call 811 or submit online for a USA Ticket at least two working days before you dig.

  *(The day you call is **NOT COUNTED**)*

- **Step 3:** Wait the required time for utilities to respond

  *(Positive response from utility is required)*

- **Step 4:** Dig Safely.
CGC 4216.2(a)

Excavator **SHALL** delineate the area to be excavated, and if the area is not delineated, the operator may, at the operator’s discretion, choose not to locate and field mark until the area to be excavated has been delineated.
The One Call Process: In partnership with California Regional Common Ground Alliance (CGA)

Step 1: EXPIRED TICKETS

4216.2(e)

- Ticket is valid for 28 days from date of issuance
- If work continues beyond 28 days, the excavator **shall** renew the ticket by the end of the 28th day.
- Ticket is no longer valid for work beyond 28 days even if both excavator and operator both mutually agree.
Step 1: EXPIRED TICKETS

4216.2(i)

• If a ticket obtained by an excavator expires but work is ongoing, the excavator **shall** call-in for a new ticket and wait a minimum of two working days, not including the date of call-in, before restarting excavation.

• All excavation **shall** cease during the waiting period.
Step 1: Mark Your Dig Site

Tree removal

Sewer Lateral

Sidewalk

Private property: 120 feet into property from street
(Bracket all corners)

Fence Post or pole replacement

Best Practice: Use Common Ground Alliance Best Practice for Markings
Step 1: Mark Your Dig Site

CG 4216.2(a)

- With white paint, stakes, other suitable material
  - For homeowners: white stakes, flour or other white substance may be used.
  - For AG areas: Weighted white paper bags
- Limit the site to manageable sizes (able to complete within 28 calendar days)

Best Practice: Take a physical inventory of subsurface facilities such as meters, vaults, manhole covers, utility risers, cuts in pavement, etc.

Failure to delineate may result in your site not being marked for utilities.
Step 2: Calling 811 for a Ticket

4216.2: Except in an emergency, any person planning to conduct any excavation shall contact the One Call Center.

- Each excavator is required to have their own ‘ticket’
- Must call at least 2 working days before digging start date
  - May call up to 14 calendar days prior to digging start date.
- Ticket number issued - Valid for 28 calendar days from date of issuance
  - Copy of ticket emailed to caller (if email provided)
  - Print copy at One Call Center website
- One Call Center notifies its members

Best Practice – Keep copy of ticket at job site.
PG&E Utility Markers

The One Call Process: In partnership with California Regional Common Ground Alliance (CGA)
**Step 3: Field Meetings and Standby**

**Field meetings:** Legally required when digging near “High Priority” Facilities – 4216.2(c)

<table>
<thead>
<tr>
<th>Natural gas pipelines greater than 60 PSIG</th>
<th>Electric line 60 kV or greater</th>
<th>Petroleum lines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressurized sewage pipelines</td>
<td>Hazardous materials pipelines that are potentially hazardous to employees or the public if damaged</td>
<td></td>
</tr>
</tbody>
</table>

**Best Practice:** Contractor requests field meeting for large, complex or long-duration projects.
Requirements Once Excavation Begins

Additional Requirements

- PG&E requires Standby Personnel to be on-site during excavation or boring operations if you are **excavating within 5 feet** of a high priority facility or a critical facility.

- Require special permits to Cross Easements
- Special Requirements to Support Facilities
- Special Backfill Requirements
- Special Excavation Requests
- One-way feed
- Utilities serve critical facility - hospital, airport, etc.

- **Contact Local L&M Supervisor**
Step 3: Utility Response: Markings

Utilities will mark the **approximate**, horizontal path of their facilities

<table>
<thead>
<tr>
<th>Delineations/Proposed Dig Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temporary Survey Marks</td>
</tr>
<tr>
<td>Electric Power</td>
</tr>
<tr>
<td>Gas, Oil, Steam, Chemical</td>
</tr>
<tr>
<td>Cable/Communications</td>
</tr>
<tr>
<td>Potable Water</td>
</tr>
<tr>
<td>Sewers/Storm Drains</td>
</tr>
<tr>
<td>Reclaimed Water</td>
</tr>
</tbody>
</table>
PG&E Marks

The One Call Process: In partnership with California Regional Common Ground Alliance (CGA)
Tolerance Zone – 4216(u)

“Tolerance zone” means 24 inches on each side of the field marking placed by the operator in one of the following ways:

(1) Twenty-four inches from each side of a single marking, assumed to be the centerline of the subsurface installation.

(2) Twenty-four inches plus one-half the specified size on each side of a single marking with the size of installation specified.

(3) Twenty-four inches from each outside marking that graphically shows the width of the outside surface of the subsurface installation on a horizontal plane.
Step 4: Requirements Once Digging Begins

Must use only “hand tools” within 24 inches of outside edge of underground line

- **One Inch Line**
  - 24” Buffer
  - 24” Buffer
  - 49” Approximate Location

- **Twelve Inch Line**
  - 24” Buffer
  - 24” Buffer
  - 60” Approximate Location
Step 4: Requirements Once Digging Begins

Markings for subsurface installations

Locate and Field Marks do NOT indicate depth – 4216(n)(2)
Hand digging requirement – 4216.4(a)(1)

“...if an excavation is within the tolerance zone of a subsurface installation, the excavator shall:

• Determine the exact location of the subsurface installations ...using hand tools

• Use reasonable care to prevent damaging subsurface installations.”
Remark Rules

4216.3(b) – If field marks are no longer reasonably visible:

1. Excavator shall re-notify USA for remark
2. Excavation shall cease in the area to be remarked
3. If the delineation is no longer reasonably visible, excavator shall re-delineate
4. If remarks are requested, two-day rule applies
Step 4: Following-up on Your Ticket

Call 811 or go on-line to:

- Unable to locate utilities as marked
- Unknown utilities are exposed/discovered
- Extend the ticket when your digging project is going to be longer than 28 calendar days
- Request utilities locate and remark utilities if markings are no longer visible
- Need to call in new ticket for area of proposed dig is beyond original extent

Best Practice: Have copy of ticket at job site.

- Copy of ticket emailed to caller (if email provided)
- Print copy at One Call Center website
When Damage Occurs

When to Call 911  

4216.4(c)(2)

An excavator shall call 911 emergency services upon discovering or causing damage to either of the following:

(A) A natural gas or hazardous liquid pipeline subsurface installation in which the damage results in the escape of any flammable, toxic, or corrosive gas or liquid.

(B) A high priority subsurface installation of any kind.

Call 911 immediately from a safe distance, then 811 and the utility.
Questions?
Thank You

Steve Cleaver
Dig-in Reduction Team (DiRT)
Southern Region Lead

r8cb@pge.com
(559)593-5728