Excavator’s Manual

Call Before You Dig

- Call Before You Dig
- Wait The Required Time
- Confirm Utility Response
- Respect The Marks
- Dig With Care

Regular Hours:
Monday - Friday: 7:00 AM - 5:00 PM

Weekends, Holidays & After Regular Hours - Use Website - Call Only For EMERGENCIES!

800-922-4455
www.cbyd.com
Preface:

The purpose of this document is to provide you with a basic understanding of your responsibilities under CT Public Act No.87.71, CT statutes 16-345 through 16-359, and Section 16-345 of the Regulations of the Connecticut State Agencies concerning safe excavation practices and the protection of underground facilities in Connecticut.

This document is not intended as a legal reference, and does not contain the complete text of the Public Act or Regulations.

A complete copy of the State of Connecticut Public Act No.87.71 and section 16-345 of the Regulations of the Connecticut State Agencies is available from:

Call Before You Dig, Inc.
CBYD Call Center
2040 Whitney Avenue
Hamden, Connecticut 06517

Or by submitting a request through the CBYD Call Center’s website: www.cbyd.com.
1. Excavator calls CBYD Center with a Mark-Out Request
2. CBYD Center identifies & notifies the Facility Operators that might have buried facilities in the pending excavation site
3. Facility Operators either mark the facility, or mark the site is clear, or notify the excavator the site is clear.

This system only works when the Excavator, CBYD Center and Facility Operator all communicate!
**Why Do I Need To Call Before I Dig?**

It’s the law in the State of Connecticut, and it is also a necessary part of planning your work. Reviewing your work and your work area prior to the actual excavation can help save you and your company from unexpected downtime, loss of revenue and injury.

A safe excavation can be achieved by following the suggestions and processes outlined in this manual.

**Who We Are...**

Call Before You Dig, Inc., (CBYD) is a state regulated, nonprofit organization under DPUC oversight comprised of all public utilities and municipalities within the State of Connecticut. The organization is administered by a board of annually elected directors. The purpose of CBYD is to function as a statewide, one-call notification system that provides excavators and the general public with the ability to inform multiple owners and operators of underground facilities of proposed excavation. This is accomplished via a single telephone call to an interstate toll free number, by fax or E-Ticket. Callers should note that as part of standard operating procedures, all conversations are voice recorded. CBYD must be called first, prior to excavating or requesting application for permits from any public agency.

**Call Center Hours Of Operation**

- The CBYD Call Center operates from 7:00 AM to 5:00 PM weekdays answering calls from anyone who plans to dig in Connecticut.
- Only emergency calls are accepted after hours, weekends and holidays. CBYD will tell you which utilities are in the area. It is your responsibility to call each utility directly for an emergency mark-out.

**Call Center Operation**

After you have given all of the appropriate information to the one-call operator, (Customer Service Representative), this is what happens...

- The Customer Service Representative will read all the information back to you.
- Listen carefully and verify its accuracy.
- You will be given a list of member utility owners that the CBYD will notify. Write them down so that you can check for a positive response.
- You will also be given a mark-out request number that is proof of your call and a reference. Record the number and keep it available at your excavation for the duration of the excavation.
1. It is the law!

2. You must call for a mark-out request at least 2 full working days but not more than 30 days before any excavation starts. (Excluding holidays & weekends).

3. You must call regardless of where the excavation is. Even if it is on private property, out in the middle of a field, or on a street that has no name.

4. You must call if you are using mechanized equipment even if you are only excavating a few inches or just surface grading. If you move material, or plan to drill or drive anything into the ground... you must call.

5. Don’t rely on old marks or faulty information... call.

6. Before calling CBYD, you must mark out the area that you plan to excavate with White Paint, Flags, or Stakes.

7. When Investigators from the Connecticut Department of Utility Control (DPUC) inspect an excavation site or investigate damage, they will check to see if you have a valid mark-out request.

8. Review the Mark-Out Request Information Sheet so that you will know what you need when you call (see page 4).

9. An emergency is: a situation involving danger to life, health, or property, interrupting the operation of a major industrial plant, or disrupting the continuity of public utility service.

10. In an emergency call CBYD with the location of the emergency excavation as soon as possible!
Excavation:

An excavation is defined as any operation for the purpose of movement or removal of earth, rock or other materials in or on the ground by use of mechanized equipment, including blasting.

Excavations include, but are not limited to:

- Demolition of Structures
- Cable or Pipe Plowing or Driving
- Setting Poles
- Reclamation Processes and Milling
- Installing Sign Poles
- Boring Holes for Percolation Tests
- Ditching
- Auguring
- Moving Earth
- Drilling
- Grading
- Trenching
- Digging
- Scraping
- Razing
- Dredging
- Tunneling
- Wrecking
Locate Request Information Sheet:

When you call the CBYD Center you will need to provide the following information. Copies of this form in pads are available from the CBYD Center for field use.

Call Before You Dig

Call Two Full Working Days In Advance
800-922-4455
Toll Free Statewide

Contractor#: ___________________________ Date: ___________ Time: ___________

Location: _____________________________________________________________

City / Town                                Street

Nearest Street: __________________________________________________________

Type Of Work: __________________________________________________________

Remarks:_____________________________________________________________

_____________________________________________________________________

Name Of Caller: _______________________________________________________

Company Name: _______________________________________________________

Phone #: (______)___________________Fax #: (______)___________________

Start Date: _________________________Start Time: _________________________

Excavator Doing Work: _________________________________________________

Request Number: _______________________________________________________

Utilities Notified:

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Call Before You Dig
1-800-922-4455  www.cbyd.com
Wait The Required Time:

1. Before you begin any non-emergency excavation you must call CBYD and make a mark-out request, at least two full working days, but not more than 30, before your excavation begins (not including the date of your call). This will give the facility operators at least two days to respond.

2. Do not start excavating before your stated start date and time!

3. Weekends and holidays are not working days and are not included in the two full working days required for your site to be marked out (See Holidays below).

4. If your excavation has not started within 30 days of the call date, your mark-out request will no longer be valid, and a new mark-out request will have to be called in.

5. The mark-out request is good for 30 days from the call in date. You are responsible to call and renew the mark-out request if the work runs longer than 30 days, and every 30 days thereafter.

Holidays:

New Year’s Day - January 1st
Martin Luther King Day
President’s Day
Good Friday
Memorial Day
Independence Day - 4th of July
Labor Day
Columbus Day
Veteran’s Day - November 11th
Thanksgiving Day, and the day after.
Christmas Day - December 25th
Confirm The Utility Response

1. Each utility operator identified on your one call ticket is required to either mark-out the area of proposed excavation or advise you that the area is clear.
   ■ That response will either be a facility mark-out (which could be a “Company Name - Clear”) in the field, or contact from the operator that they do not have facilities in the proposed dig site area and that the area is clear.

2. Remember, facility operators will only mark out, or clear, facilities they are responsible for.

3. If the area is not marked, or you do not hear from the facility operator identified on your mark-out request before your stated commencement date, call the facility operator’s contact number.

4. It is important for you to provide an accurate field contact phone number when you call the CBYD Center for a mark-out request because that is the phone number the facility operators will use should they need to contact you regarding the mark-out request.
Respect The Marks

1. You are responsible for maintaining the marks set down by utility operators at your site.
2. Before you begin your excavation, walk-through the site to familiarize yourself with the markings and the locations of buried utilities.
3. Pay special attention to any changes in direction that the underground facilities take.
4. If your excavation will cause the removal or disturbance of markings, establish offset marks in order to maintain a reference point for those underground facilities.
5. Make sure that everyone involved in your excavation is aware of any offsets that have been established, any marks that have been compromised, or any other information regarding facility locations.
6. Don’t put spoil piles over markings. Avoid driving machinery over stakes and flags. Paved areas should be swept periodically so that painted marks remain visible.
7. If marks have faded or been compromised to the point where proper and safe excavation is no longer possible, call the CBYD Center and make a request for a new mark-out ticket.
8. If you refresh the markings at your site, make sure that you use the uniform color code and identification letters to avoid any confusion.

Dig With Care

1. Before you use mechanized equipment within the approximate location of any marked utility facility you should:
   ■ Verify the location, type, size, direction of run and depth of facility.
2. Mechanized equipment may be used for removing pavement, but only to the depth of the pavement.
   ■ Care and good judgment should be used when removing pavement.
   ■ Avoid starting the pavement break directly over the marked facility.
Dig With Care (cont...)

- Wherever possible, start a few feet away from the marks and attempt to ‘peel’ off the pavement or break it into small chunks for removal.
- Verification by a hand dug test hole requires the facility to be exposed to view.
- If after a diligent search the facility cannot be verified in this manner, notify the facility operator.
- If you are using trenchless excavation (boring, tunneling, drilling, vibratory plowing, etc.), you must expose all utility facilities which you cross or encroach upon in the location where you cross or encroach upon, to ensure the facilities do not get damaged.
- Do not assume that buried facilities will be at a certain depth.
- Facilities may have been originally installed at a prescribed depth, but later erosion or grade changes cause them to now have shallow or deep cover.
- If you find an unmarked or unknown facility and you can tell who the facility owner is, notify them.

Hand Dig Near Gas Lines

1. If you need to dig within the approximate location of a combustible, hazardous fluids or gas line (natural gas, propane or gasoline), you must Hand Dig Only!
- All excavation, except the removal of bituminous or concrete road surfaces, within 18” on either side of a hazardous fuel line must be done with Hand Tools Only.
- Use of mechanized equipment in the approximate location of hazardous fuel lines is a violation of Connecticut law.
2. Mechanized equipment can be used only to remove the bituminous or concrete road surface, and only used at the depth of the road surface.
- Care and good judgement should be used when removing pavement.
- Avoid starting the pavement break directly over the marked facility.
- Whenever possible, start a few feet away from the marks and attempt to “peel off” the pavement or break it into small chunks for removal.
Approximate Location

The approximate location is defined as:

■ 18” on either side of the designated center line of the facility if the diameter is not provided.
■ Or, 18” from each outside edge if the diameter is provided.

For example:

Measuring The Approximate Location

The facility at left is marked as being 20-inches wide. So, 18” on each side, plus the width of the facility, gives us an Approximate Location of 56”.

The facility at right is marked with its location, but shows no width. So, 18” on each side, gives us an Approximate Location of 36”. 
Excavation After Verification

1. When excavating close to an underground facility, it is a good practice to have a spotter assist and guide the machine operator.

2. For combustible or hazardous fluid or gas lines, no powered or mechanical excavation within 18” of the line.

3. If the excavation work requires significant spans of the facility to be exposed, it is the excavator’s responsibility to support them to prevent sagging or collapse as needed. Contact the utility operator for support, guidance or assistance.

4. Take care not to damage the conduit or protective coating of a facility. If you do, leave the damaged facility exposed and immediately call the utility operator.
Reporting Emergencies Involving Damaged Facilities

In the event of an emergency involving danger to life, health or property as the result of damage to an underground facility containing combustible or hazardous fluids or gases, or as a result of an electrical short or an escape of gas or hazardous fluids, the excavator shall:

A) Proceed to evacuate his or her employees and all other endangered persons from the immediate vicinity to the best of his or her ability and;

B) Immediately notify the local police and fire departments and the operator of the affected facility of the exact location, nature of the emergency and of the underground facility which is affected.

If A Facility Is Contacted Or Damaged

1. If you damage a facility you must immediately call the operator whose facilities have been damaged, even if you only scrape the protective coating or conduit. Left untreated this type of damage can lead to a catastrophic failure.

2. You should keep the emergency number of your local facility operators at hand.

3. If you are in doubt about whose facility it is, call the CBYD Center. They will transmit a mark-out request to all facility owners in the area.

4. Under no circumstances should you attempt to repair or tamper with the damaged facility.
If You Break A Natural Gas, Petroleum, Propane Or Other Combustible Hazardous Liquid Or Gas Line, Follow These Steps

1. Stop work and evacuate the site.
2. Call 911.
3. Call the appropriate utility operator.
4. Don’t do anything that could cause a spark.
5. Alert everyone on the premises.
6. Keep the public and traffic away.
7. Tape, rope or place cones around the area.
8. Stay upwind of blowing gas.
9. Do not try to fix a gas pipe.
10. Do not try to extinguish a gas burning fire, unless there is a threat to life.
Any person responsible for excavating, demolition or blasting must notify CBYD and provide at least two full working days notice, excluding Saturdays, Sundays and holidays, before excavation begins.

Designate the work area with white paint or white tipped stakes. If the work area exceeds 1000 feet and the excavator determines that it is not practical to designate the proposed excavation, a pre-construction meeting involving the affected utilities or planned maps provided to the affected utilities is required.

Use prudent judgement when all facilities are not identified. Considerations of proceeding are potential hazard to life, property and facility damage. Unless it is an emergency, calls should be made to the affected utilities if the area is not marked or confirmed clear.

Exercise reasonable care when working in proximity to underground facilities. This includes, appropriate construction methods, proper backfilling and shoring techniques, proper equipment and explosives, adequate training, and sponsoring pre-construction meetings.

Hand digging is required when dangerous fluids or gas are likely to be exposed. Mechanical equipment is limited to removing concrete or bituminous surfaces only.

Avoid the covering or removal of surface markings or stakes indicating the underground location of facilities during construction.

Excavation notices expire at the end of 30 days from the date notice was provided. If excavation is not completed in 30 days, a renewal notice is required.

If contact is made with any underground facility, the affected public utility must be notified. If contact occurs involving gas, the excavator must notify police, fire and emergency personnel, and evacuate employees and general public. No attempt should be made to tamper with or correct the damaged facility. The repair of protective coatings may only be done when authorized by the owner of the facility.

Don’t phone in emergency locates that are not really emergencies.

Don’t work under anyone else’s mark out request.
E-Ticket Internet Notification:

An E-Ticket is a mark-out request created and entered into the CBYD Center’s database through the internet by an excavator at a remote location.

CBYD’s interactive website can process routine, emergency, and renewal mark-out requests.

All You Need:
- Access to the internet.
- An e-mail account.
- An assigned username and password.
- Microsoft Internet Explorer 4.0 or newer.

Entering An E-Ticket:

When you enter an E-Ticket over the internet you’ll need the same information that you give your CBYD Center when you call in.

Once the E-Ticket has been completed a chance to review the mark-out request and make additions, changes or corrections is available prior to confirming that the data is correct. Upon review the E-Ticket is transmitted into the system for distribution to the facility operators with underground facilities in the dig site area.

Advantages Of An E-Ticket:

Excavators can now create their own mark-out request on the internet at the CBYD Center’s website - www.cbyd.com
- This service is available 24 hrs. a day, 7 days a week, 365 days a year!
- A printed copy of the E-Ticket for the excavation is available for your records. It lists the facility operators that have been notified of the dig.
- After you have completed your first E-Ticket, all of your significant company information will be automatically entered on each subsequent E-Ticket, saving time.
- No waiting on the telephone during peak periods.
- Verbal transcription errors can be eliminated.
- Self-paced tutorials are available at our website under the HELP button.
- The E-Ticket service is FREE!

To Sign Up:
Visit our website - www.cbyd.com for further details.
### Emergency Numbers:

**Police:** ___________________________________________

**Fire Department:** _________________________________

**Gas:** ___________________________________________

**Electric:** _______________________________________

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The Perfect Excavation

Does it exist? We think it does... in fact it happens all the time! Here are ten simple steps to the perfect excavation:

1. The excavator visits the site, and marks out every place he may be excavating with white paint, flags, or stakes.
2. The excavator fills out all the information about the excavation on a CBYD Center Mark-Out Request Information Sheet, (see pg. 4), then calls in the mark-out request to the CBYD Center.
3. The CBYD Center Customer Service Representative takes the information, and gives the excavator a Mark-Out Ticket Number and a list of members (facility operators) notified. The excavator writes these down on the Mark-Out Request Information Sheet for later reference.
4. The excavator then notifies any nonmember facility operators if known, such as apartment complexes, commercial complexes, railroads with communication cables, etc.
5. Each member facility operator either marks out their facilities at the work site, or determines that the site is clear.
6. Each member facility operator either completes the Mark-Out, or notifies the excavator they are clear, or that they need additional information.

The excavator then checks off each facility operator on his Mark-Out Request Information Sheet with what the results were.
7. The excavator begins work on the scheduled work date and time, (if all the facility operators have responded), taking care to find and preserve any markings that have been made.
8. When digging near a buried facility, the excavator observes the approximate location around that facility.
9. If exposing a facility, the excavator provides proper support and protection for it so that the facility will not be damaged.
10. When the excavation is complete, the excavator provides proper backfill for any facilities that have been exposed, and removes all utility markings.
Guidelines For Marking Proposed Excavations

The following is only a guideline. Refer to the current Common Ground Alliance (CGA) Best Practices for complete details (www.commongroundalliance.com).

These illustrations are examples of how excavators should mark the area of proposed excavation. Use white marking products (paint, flags, stakes, whiskers or combination) to identify the excavation site. Connecticut regulations require the excavator to “designate” or “white line” the proposed excavation area, or to conduct a pre-construction meeting with all affected operators.

Single Point Excavations Markings

- Full Line
- 1” Wide Line & Company Identifier
- 1” Dia. Dots & Company Identifier
- Dots may have less than 4’ spacing
- Radius or Arc
- 1” Wide Line 6-12” Long & Company Identifier
- Four Corner
- 1” Wide Line 6-12” Long & Company Identifier
- Dash Line

Mark with white paint the proposed area of excavation by using: a continuous line, dots marking a radius or arc, dashes marking the four corners of a project or dashes outlining the excavation project. Make the dash about 6” to 12” in length and 1” in width. Space them between 4’ to 50’ apart. Make the marks close together enough to be seen by the Operator’s locators. Dots of about 1” in diameter are typically used to define arcs or radii and can be placed at closer intervals instead of dashes.

Using A Single Stake To Mark The Center Point of Excavation Site

When an excavation site is contained within a reasonable radius, (Ex: tree planting, utility pole installation, sign posts, etc.), you can mark it with a single stake positioned at the center of the proposed excavation. If the you choose this way of marking you must tell the CBYD Center that you have marked the excavation site with a single stake at the center and include the radius of the site. The stake has to be white and have this information on it: excavator’s name, abbreviations, or initials, and the radius of the excavation site in black letters on the stake or a note attached to the stake.
APWA Uniform Color Code
For Marking Underground Utility Lines

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<tr>
<th>Color</th>
<th>Description</th>
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<tr>
<td>White</td>
<td>Proposed Excavation</td>
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<tr>
<td>Pink</td>
<td>Temporary Survey Markings</td>
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<tr>
<td>Red</td>
<td>Electric Power Lines, Cables, Conduit &amp; Lighting Cables</td>
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<td>Yellow</td>
<td>Gas, Oil, Steam, Petroleum &amp; Gaseous Material</td>
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<td>Communications, Alarm, Signal Lines, Cables or Conduit</td>
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<tr>
<td>Purple</td>
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<td>Green</td>
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Measuring The Approximate Location

**APWA Uniform Color Code**

For marking underground utility lines:
- **White**: Proposed Excavation
- **Pink**: Temporary Survey Markings
- **Red**: Electric Power Lines, Cables, Conduit & Lighting Cables
- **Yellow**: Gas, Oil, Steam, Petroleum & Gaseous Material
- **Orange**: Communications, Alarm, Signal Lines, Cables or Conduit
- **Blue**: Water
- **Purple**: Radioactive Materials
- **Green**: Sewers & Drain Lines

**Call Before You Dig**

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www.cbyd.com