





Damage Information Reporting Tool (DIRT) User's Guide

Updated: April 1, 2024

This User's Guide is intended to assist participants when entering data into DIRT. This guidance will help ensure that individuals submitting reports have a common understanding of the fields, which in turn will make analysis more useful and meaningful. New registrants are encouraged to review this document prior to submitting data. The data collected will be used to analyze the root causes of these events and conduct trend analyses. Gathering this data fosters an understanding of where, how and why these events are occurring, and allows organizations to use this information to target resources to prevent future incidents. The data will not be used for enforcement purposes or to determine liability.

If you would like additional information on the Reporting & Evaluation Best Practices or on additional practices, please refer to the most current edition of <u>Best Practices</u>.

The tool will accept data relating to underground facility damages as well as events that do not involve damage, such as underground near misses. The tool will also allow users to submit "Non-

DIRT events," which may be used by submitters for their own analysis, but are not used for CGA DIRT analysis. The term "event" will be used throughout this document to include near misses, damages and downtime. These terms are defined in the Glossary of Terms. If the User wishes to report two or more facilities damaged in the same event, please complete an event report for each facility damaged.

Certain fields are required in order for data to be accepted into DIRT and are noted on the form by * and in red in this guide. Please remember that **all** users are strongly encouraged to submit responses for **all** known fields. Several fields have choices that include "Unknown/other." Use of this choice is discouraged, as complete and accurate information in all fields will provide the most value for data analysis. When submitting, review all options for answers and consult this User Guide to select answers that best represent the circumstances of the event, rather than using "Unknown/other."

Data may be submitted as single entries for each event, or through bulk upload. Users who have multiple events to submit may use the bulk upload option. Tutorials for data submission can be found here. Records entered into the tool can be revised with the appropriate level of authority granted through the DIRT registration process.

If you have questions or need assistance while submitting data into DIRT, please fill out this form and a member of the CGA team will reach out to assist you.

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Part A: Original Source of Event Information

Who is providing this information?

Please select one of the following to indicate the original stakeholder group providing the Event information:

Part A – Original Source of Event Information					
Who is original source providing the information?		☐ Engineer/Design ☐	Equipment Manufacturer		
Excavator	Liquid Pipeline	Locator	Natural Gas	Private Water	
Public Works	Railroad	Road Builders	Federal/State Regulator	•	
Telecommunicat	ions	Unknown/Other	Emergency Services		
Name of the person providing the information:					

- Unknown/other: Select if none of the above choices are appropriate.
- <u>Name of person providing this information</u>: Applies to paper Field Form only. When entering online or by bulk upload, it is automatically populated based on the User's registration information.

Note: 811 centers and insurance companies that compile member or customer data for submission, please select the stakeholder group of the original source or the information.

Part B: Type, Date and Location of the Event

Part B – Type, Date, and Location of Event				
Type of Event:	DIRT Event U	nderground Damage	Underground Near Miss	
Non-DIRT Ev	ent 🗌 Above Gr	ade 🗌 Aerial 🔲 I	Natural Cause	
*Date of Event:	(MM/DD/YYYY)			
*Country	*State	*County	City	
Street address: Nearest Intersection:				
Latitude/Longitude:	Lat:	Lon	☐ Decimal Degrees ☐ D M S	
*Right-of-Way where event occurred				
		tate Highway County Road	☐ Interstate Highway ☐ Public-Other	
Private: Private Business Private Land Owner Private Easement				
☐ Pipe		ower /Transmission Line ailroad	 ☐ Dedicated Public Utility Easement ☐ Unknown/Other 	
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*Type of event:

- <u>DIRT events include:</u>
 - Underground damage: Buried facility damaged during excavation activity. See definitions of "damage," "facility," and "excavate or excavation" in the Glossary.
 - Underground near miss: See definition of "near miss" in the Glossary. Examples –
 non-damage event involving no response to locate request, facilities discovered
 mismarked, excavator found digging with no locate request.
- Non-DIRT events include:
 - Above ground/surface: Examples vehicle struck meter or pole, lawnmower or farm implement struck valve.

- Aerial: Examples truck hit overhead lines/wires, etc.
- <u>Natural cause:</u> Examples damage to above or below-ground facilities due to weather events, downed lines due to high winds, tornadoes or lightning strikes, pipeline damaged by flood or washout.
- Submarine: Examples dredging, anchor snags an underwater pipeline.

*Date of event: Please enter the date the event occurred, if known. Otherwise, please provide the date it was discovered. For example, damage to a facility in an open trench can readily be documented at the time of occurrence. However, if a directional bore damaged a facility the date of discovery may be days or even weeks later. Also use date of discovery for events with a root cause of *Previous Damage*.

LOCATION NOTE: Users are encouraged to use the Individual Incident/Event Report entry form's "Map Location" feature (example below), which opens a Google Maps window. Users can use the navigation features (zoom in or out; move east, west, north or south) to pinpoint the desired location. Clicking on "Set Location" will populate the DIRT entry form with the location fields, latitude/longitude, state, county, city and street address.

Latitude/longitude:

If the location of the damage is available from GPS coordinates, provide the latitude and longitude. These can be used in addition to, or in place of: city, street address and nearest intersection. Latitude/longitude can be provided in two forms:

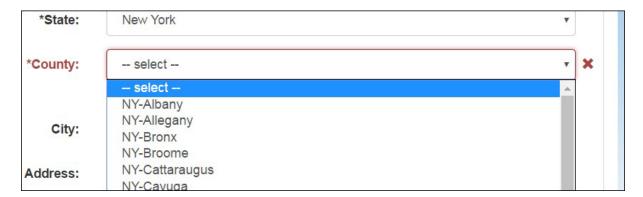
- <u>Decimal degrees:</u> Example 41.34512 and -102.3189 (please note longitudes in the United States and Canada are negative).
- <u>Degrees/minutes/seconds</u>: Example N deg: 41 min: 20 sec: 42 and W deg: 102 min: 19 sec: 8



*Country: Country where the event occurred.

*State: Select the state or Canadian province where the event occurred. The online tool will default to your home state based on the login information. However, a different state or province may be chosen if necessary.

*County: Select the county where the event occurred. In the online version, the list of possible counties will be automatically provided in the field drop-down box based on the state selected. (Parishes would be included in this category.)



<u>City:</u> Enter the city where the event occurred. The "city" is defined as an incorporated municipality in the United States or Canada with definite boundaries and legal powers set forth in a charter granted by the state or a Canadian municipality of high rank, usually determined by population but varying by province. (Towns, boroughs, villages, etc. would be included in this category.)

<u>Street address:</u> Enter the street address where the event occurred. Please include the nearest house number, if available (example: an event may not be near a building). This field is not required and will not be published in any reports issued by the CGA. However, providing this information may enable identification of multiple reports of the same event.

<u>Nearest intersection</u>: Enter the nearest intersection, or cross street, to where the event occurred. This field is not required and will not be published in any reports issued by the CGA. However, providing this information may enable identification of multiple reports of the same event. It is especially useful when a house number is not provided with the street address.

*Right-of-Way where the event occurred: Select the type of land or property in which the underground facility was placed, where the event occurred. If uncertain, select the most appropriate option from the drop-down menu, using the descriptions below as a guide.

- Public city street: Within the boundaries of a road that is under the jurisdiction of and maintained by a municipality where a permit was required to place the facility. Typically, a city street is a paved road within the city limits with boundaries at the outer edge of a sidewalk, building front or back-of-ditch line if no sidewalk is present.
- <u>Public state highway:</u> Within the boundaries of a road that is under the jurisdiction of and maintained by the state department of transportation (DOT) where a permit was

- required to place the facility. Typically, a state DOT owns and maintains anywhere from 20 feet to 50 feet from the centerline of the road on either side of the road, although these distances vary. Often, a fence line or back-of-ditch line denotes the edge of the state right-of-way.
- <u>Public county road:</u> Within the boundaries of a road that is under the jurisdiction of and maintained by a county department of roads or public works and where a permit was required to place the facility. County roads can be paved, gravel or dirt. Typically, a county owns and maintains anywhere from 20 feet to 50 feet from the centerline of the road on either side of the road, although these distances vary. Often, a fence line or back-of-ditch line denotes the edge of the county right-of-way.
- <u>Public interstate highway:</u> Within the boundaries of a road that is under the jurisdiction of and maintained by the DOT where a permit was required to place the facility and is a controlled access highway linking major cities across the United States.
- <u>Public other:</u> Within public lands not covered by federal lands (as defined below). This includes National Parks, Native American lands, or other city, state or federal property not covered under the street, highway or road descriptions.
- <u>Private landowner:</u> On land that is owned by a person, group, corporation or other entity, not a government body, but does not fit within any other listed right-of-way type.
- <u>Private business:</u> On land owned by a person, group, corporation or other entity and not owned by a government body. The land is used for commercial or industrial purposes but does not fit within any other listed right-of-way type.
- <u>Private easement:</u> Property owned by a person, group, corporation or other entity, not a governmental body. Placement of facilities within the property of a private person, group, corporation or other entity typically requires an easement (a right created by a grant or agreement with the landowner to allow the placement and maintenance of the facility by the facility owner). Easements are of varying widths.
- <u>Pipeline</u>: Within a strip of land where a private easement has been obtained to place and maintain a gas or petroleum pipeline. Typically, this strip of land is a cross-country route with boundaries of 20 feet to 50 feet on either side of the pipeline, although this width may vary. If the event occurred within an area that is common to a city street, state highway or county road and a pipeline crossing, then choose the appropriate option of city street, state highway or county road.
- Power/transmission line: Within a strip of land where a private easement has been obtained to place and maintain an overhead power or high-voltage transmission line. Typically, this strip of land is a cross country route with boundaries of 20 feet to 50 feet or more on either side of the pole/tower line. If the event occurred within an area that is common to a city street, state highway or county road and a power/transmission line crossing, then choose the appropriate option of city street, state highway or county road.
- <u>Railroad:</u> Within the boundaries of land maintained by a railroad company and where a
 permit from the railroad company was required to place the facility. If the event
 occurred within an area that is common to a city street, state highway or county road

- and a railroad crossing, then choose the appropriate option of city street, state highway or county road.
- <u>Dedicated public utility easement</u>: Strip of land devoted solely for the placement of public utilities. Typically, dedicated public utility easements are 10 feet to 20 feet wide and are found between adjacent properties (usually along the back sides) within a subdivision.
- <u>Federal land:</u> Within lands owned by the United States government, except for lands in the National Park system, lands held in trust for a Native American or Native American tribe, and lands on the outer continental shelf (see "Public other" above).
- <u>Unknown/other:</u> Select if none of the above choices are appropriate.

Part C: Affected Facility Information

Part C – Affected Facility Information				
*What type of facility operation was affected? □ Cable Televis □ Natural Gas □ Sewer □ Steam				
*What type of facility was affected? Distribution Gathering Service/Drop Transmission Unknown/Other Was the facility part of a joint trench?				
Was facility owner One Call Center member? Yes Unknown				
If No, is facility owner exempt from One Call Center membership?				
Measured Depth	<18" / 46 cm Measured depth			
From Grade	>36" / 91 cm			

*What type of facility operation was affected?

Select one of the following options from the drop-down menu. If the User wishes to report two or more affected facilities in the same event, please complete an event report for each facility damaged.

- <u>Cable TV:</u> Any underground CATV facility.
- <u>Electric</u>: Any underground electrical lines and related electrical facilities regardless of the voltage or the type of service e.g., primary or secondary.
- <u>Liquid pipeline:</u> Any underground facility that contains and/or transports any liquid other than water, including petroleum products.
- Natural gas: Any underground facility containing and/or transporting natural gas.
- <u>Sewer:</u> Select for both forced mains and gravity sewers and facilities associated with lift stations. **This category also includes storm water facilities**.
- <u>Steam</u>: Any underground facility providing steam for use in heating or other industrial applications
- <u>Telecommunications:</u> Any underground buried telecommunication lines and fiber optic lines used for either telecommunications or for internet/data transfer.
- <u>Water</u>: Any underground facility installed for the purpose of supplying or transporting water for consumption or industrial purposes, including reclaimed water.
- <u>Unknown/other:</u> Any underground service not included in the other categories. For
 example, high or low-pressure gas lines exist with other products such as air, helium,
 nitrogen, etc.

*What type of facility was affected?

Select one of the following options from the drop-down menu.

- <u>Distribution</u>: Distribution lines are the tier below transmission for gas and electric but also apply to water companies. Water companies often refer to their distribution lines as water mains. Electric companies further delineate the distribution network into primary and secondary. For the purpose of the DIRT, please select *Distribution* for primary electric and as appropriate for the other listed utilities.
- <u>Gathering</u>: Any pipeline that transports a commodity from a production facility to a transmission line or distribution main, or directly to an end user.
- <u>Service/drop</u>: For the purpose of DIRT, please select *Service/drop* for secondary electrical lines, gas services, and laterals for water and sewer. Also, since cable TV and telecommunications are not normally delineated as either transmission or distribution, select *Service* for these utilities.
- <u>Transmission</u>: Transmission lines are generally operated by electrical utilities and by natural gas and other pipeline utilities/operators. Electrical transmission includes both extra-high-voltage (EHV) lines and high voltage (HV).
- <u>Unknown/other</u>: All other facilities that do not fulfill the requirements stated above. For example, there are many temporary or localized utilities that may not meet the requirements as defined previously in this section. Pipelines carrying gasses other than natural gas, such as air, helium or nitrogen, should be listed as "Unknown/other".

Was the facility part of a joint trench?

See definition of "joint trench" in the Glossary.

- Yes
- No
- Unknown

Did this event involve a cross bore?

Cross bore guidance can be found in Appendix B.

- Yes
- No

Was facility owner a member of 811 (one call) center?

See definition of "811 (one call) center" in the Glossary. Select one of three options from the drop-down menu.

- Yes
- No
- Unknown

If no, was facility owner exempt from 811 (one call) center membership?

See definition of "facility owner" in the Glossary. Some state laws/regulations exempt certain types of underground facility operators (example: railroads, DOTs).

Select one of three options from the drop-down menu.

- Yes
- No
- Unknown

Measured depth from grade

See definition of "facility" in the Glossary. Select one option from the dropdown menu.

- Embedded in concrete/asphalt pavement.
- <18" / 46 cm
- 18" 36" / 46-91 cm
- >36" / 91 cm
- Measured depth from grade _____ in/cm

Part D: Excavation Information

Part D – Excavation Information	
*Type of Excavator	□ Developer □ Farmer □ Municipality □ State □ Utility □ Unknown/Other
*Type of Excavation Equipment ☐ Auger☐ Drilling ☐ Directional Drilling ☐ Explosives☐ Milling Equipment ☐ Probing Device	☐ Backhoe/Trackhoe ☐ Boring ☐ Bulldozer ☐ Farm Equipment ☐ Grader/Scraper ☐ Hand Tools ☐ Trencher ☐ Vacuum Equipment ☐ Unknown/Other
*Type of Work Performed ☐ Agriculture ☐ Curb/Sidewalk ☐ Drainage ☐ Irrigation ☐ Natural Gas ☐ Pole ☐ Public Transit Auth. ☐ Site Development ☐ Steam ☐ Traffic Sign	□ Bldg. Construction □ Bldg. Demolition □ Cable Television □ Driveway □ Electric □ Engineering/Survey □ Landscaping □ Liquid Pipeline □ Milling □ Railroad □ Road Work □ Sewer □ Storm Drain/Culvert □ Street Light □ Telecommunication □ Water □ Waterway Improvement □ Unknown/Other

*Type of excavator: See definition of "excavator" in the Glossary. Please identify the type of excavator that was involved in the event, regardless of fault, liability or root cause. Select from the following options on the dropdown menu.

- <u>Contractor</u>: The excavating party plans, executes and controls excavation with its employees and its schedule on property or right-of-way that it does not own. This includes subcontractors hired by (for example) a utility, municipality, general contractor, etc.
- <u>County</u>: The excavating party is employed by a county government agency and is engaged in excavation for any purpose.
- <u>Developer</u>: The excavating party plans, executes and controls excavation with its employees and its schedule on property or right-of-way that it does own or lease.
- <u>Farmer</u>: The excavating party tends land for agriculture purposes that it owns, rents or leases.
- <u>Municipality</u>: The excavating party is a town, city or district having the power of self government and engaged in excavation for any purpose.
- <u>Occupant</u>: The excavating party is a resident or property owner and performs excavation activities on the same property.

- <u>Railroad</u>: The excavating party is performing railroad construction, maintenance or excavation with railroad employees.
- <u>State</u>: The excavating party is employed by a state government agency and is engaged in excavation for any purpose.
- <u>Utility</u>: The excavating party plans, executes and controls excavation with its employees under its control in placing utilities it owns.
- <u>Unknown/other</u>: The excavating party cannot be determined to fit the above categories, or the excavating party does some specialized excavation that does not fit the above categories.

*Type of excavation equipment: Please indicate the type of equipment or machinery that was involved in the event, regardless of fault or liability. Most are self-explanatory. Select one of the following options from the dropdown menu.

- <u>Auger</u>: Machinery used to drill earth horizontally or vertically by means of a cutting head and auger or other functionally similar device.
- <u>Backhoe/trackhoe</u>: A backhoe is a machine with a rear-mounted attachment that digs by drawing a bucket toward the machine. A trackhoe is a machine with 360-degree rotation used to dig, demolish, lift and load material.
- Boring: Machinery used to dislodge or displace spoil by a rotating auger or drill string to
 produce a hole called a bore. Also include pneumatic tools such as hammer head or hole
 hog.
- <u>Bulldozer</u>: A machine propelled on continuous tracks or rubber tires equipped with a wide blade on the front and possibly a ripper on the rear which is used to push material with the blade or to loosen material with the ripper.
- <u>Drilling</u>: An implement with cutting edges or a pointed end for boring holes in hard materials, usually by a rotating abrasion or repeated blows; a bit.
- <u>Directional drilling:</u> A steerable system for the installation of pipes, conduits and cables in a shallow arc using a surface launched drilling rig. Traditionally the term applies to crossings in which a fluid-filled pilot bore is drilled using a fluid-driven motor at the end of a bent-sub, and back reamer to the size required for the product pipe.
- <u>Explosives</u>: The controlled use of chemical charges to break rock for excavation (example: blasting).
- <u>Farm equipment:</u> Planter, combine, tractor, plow, items used for tiling, tilling, terracing, anhydrous fertilizer applicators, sub-soilers (used to break up hard pan for draining), etc. (See also: *Agriculture* under *Type of work performed*).
- <u>Grader/scraper</u>: A grader is a machine used to smooth and level material or to shape ground surfaces such as roadside ditches and slopes. A scraper is a machine used to excavate a thin layer of soil, load it into a bowl and transport that soil over some distance.
- <u>Hand tools</u>: Excavation with tools that are not mechanically powered (example: pickax, shovel, drill, hammer, grounding rod).

- Milling equipment: Equipment used for grinding a paved road surface, typically in preparation for repaving. The ground-up material is either disposed of or treated and reapplied.
- <u>Probing device</u>: A slender rod or shaft, often with a T handle, that is pushed into the soil by hand to determine the soil condition or the location and depth of a facility or to vent the soil when searching for a gas or water leak.
- <u>Trencher</u>: Equipment used to dig trenches, especially for laying pipes or cables, or for installing drainage products. If the activity is in a farm environment, consider selecting Farm equipment.
- <u>Vacuum equipment:</u> A powerful suction device for removing earth and other materials, typically after loosening by air or water jets (example: hydro-vac).
- <u>Unknown/other:</u> The type of work performed cannot be determined to fit any of the available choices.

*Type of work performed: Choose the best work activity for installing, maintaining or removing facility. Please select the primary (best) one for the event when more than one type is performed concurrently, e.g., water and sewer. Record additional comments in Part J as needed. Select one of the following from the dropdown menu:

- <u>Agriculture</u>: Land cultivation (includes tiling, tilling, plowing, sub soiling, terracing, logging, etc.).
- Bldg. construction: Infrastructure for residential, commercial or institutional purposes.
- <u>Bldg. demolition</u>: Partial or complete destruction by any means of a structure served by, or adjacent, to an underground line or facility.
- <u>Cable television:</u> Coaxial or fiber-optic cable facilities for television.
- <u>Curb/sidewalk:</u> Pedestrian walks/driveway aprons.
- Drainage: Removal of excess water.
- Driveway: Work on the parking area of a property.
- <u>Electric</u>: Work on or for electric system facility.
- <u>Engineering/surveying:</u> Work to plan and execute surveys for the location, design, construction, operation and maintenance of civil and other engineered projects.
- · Fencing: Enclosures and boundary structures.
- Grading: Levelling or sloping the ground surface.
- <u>Irrigation</u>: Interval water supply systems to plants and crops.
- Landscaping: Modifying the visible features of an area of land.
- <u>Liquid pipeline</u>: On or for a facility used to transport liquid petroleum products, including brine.
- Milling: Grinding a paved road surface, typically in preparation for repaying.
- Natural gas: On or for natural gas underground pipelines and related facilities.
- Pole: Utility and lighting poles, anchors and related equipment.
- Public transit authority: On or for a facility used by public vehicles.
- Railroad: On or for a facility used by railways.
- Road work: Vehicle roadways.
- Sewer: On or for facility used to drain sanitary or storm water.

- <u>Site development:</u> Work, not described elsewhere, preparing a site for construction.
- Steam: On or for steam power or piping facility.
- <u>Storm drain/culvert:</u> On or for drainage system.
- <u>Streetlight</u>: Electrical lines for public lighting.
- <u>Telecommunications</u>: On or for a facility used to transmit communications signals.
- <u>Traffic signal:</u> On or for timing controls to change traffic lights.
- Traffic sign: Visible cues to help control the flow of traffic.
- <u>Water</u>: On or for water facilities or systems.
- <u>Waterway improvement</u>: Work along waterways (includes dredging and stream bank improvements).
- <u>Unknown/other</u>: The type of work performed cannot be determined to fit any of the available choices.

Part E: Notification and Locating

Part E – Notification and Locating				
*Was the One-Call Center notified?	☐ Yes	☐ No	Ticket Number	
If Yes, type of locator Facility Owner		Contract Locator	☐ Unknown	/Other
If No, is excavation activity and/or excavator	type exempt	from notification? [□Yes □ No	Unknown
Was work area white-lined? ☐ Yes	☐ No	Unknown		

*Was the 811 (one call) center notified? Select *yes* or *no*. (See definitions of "locate request," "notice" and "811 (one call) center" in the Glossary.)

- Yes: There was a valid ticket, with correct information, and in accordance with state law.
 - Note that if "Yes" is selected, "No notification made to 811 (one call) enter"
 (NOLOCATEREQ on bulk upload) may NOT be selected as a root cause in Part I.
 - If yes, please provide the ticket number.

See definition of "ticket number" in the Glossary.

- <u>No</u>: No notification to the 811 (one call) center was provided for the location of the event, or notification was made but not in compliance with applicable regulations (notice expired or otherwise **invalid** according to state law).
 - If the Root Cause in Part I is any of the following Notification Issues, the answer to "Was the 811 (one call) center notified?" in Part E should be NO, as there is not a VALID ticket in effect:
 - Excavator dug outside the area described on ticket
 - Excavator dug prior to valid start time
 - Excavator dug after valid ticket expired
 - Excavator provided incorrect notification information
 - If "No" is selected in Part E, any root cause may be chosen in Part I Root Cause.

Type of locator:

See definition of "locator" in the Glossary. Select one of the following from the dropdown menu.

- <u>Utility owner</u>: The locator is employed by the same entity that operates the buried facility being located.
- <u>Contract locator</u>: The locator is employed by a firm that performs locating services on a contract basis for operators of buried facilities or others.
- <u>Unknown/other:</u> Select if none of the above apply. Private locators should be considered other.

If no, is excavation activity and/or excavator type exempt from notification?

Some state laws/regulations exempt certain types of excavators (example: homeowner, farmer, railroads, DOTs) and/or type of excavation (example: hand tools, some types of farming operations, depth of excavation) from being required to notify 811 prior to the activity.

- Yes
- No
- Unknown

Was work area white-lined?

Was the work area to be excavated pre-marked with white paint, stakes or flags, etc., prior to arrival of the locator (see Glossary and Best Practice 5-2)?

- Yes
- No
- Unknown

Part G: Excavator Downtime

Part G – Excavator Downti	me				
Did Excavator incur down time?	1	☐ Yes	☐ No		
If yes, how much time?]< 1 hr	☐ 1 -<2 hrs	☐ 2-<3 hrs ☐ 3+ hrs	Exact Value Unknow	n
Estimated cost of down time?	\$0	\$1 -1000	S1,001 - 5,000	S5,001 - 25,000	
\$25,001 - 50,000] >\$50,000		Exact Value	Unknown	

Did the excavator incur downtime?

See definition of "downtime" in the Glossary. Downtime may occur with or without damage to a facility. For example, an excavator may be delayed while waiting for repairs to a damaged facility that was either incorrectly marked or unmarked. Alternatively, an excavator may discover a mislocated or unlocated facility with no damage occurring, but be delayed while the facility owner/operator corrects the situation. Time spent trying to find a correctly marked but hard-to-find facility does not constitute downtime.

Examples of downtime include delays associated with the following:

- a. A mislocated or unlocated facility.
- b. A facility owner/operator refusing to allow work near their facilities.

- c. An excavator made proper notice to the 811 (one call) center, but upon arrival at the work site, or after checking with the positive response system (where required), finds on the start date that some or all of the operators have not completed the locates.
- d. On a large project, the crew may be able to move to another area and continue working. In this case, include only the time required and costs associated with moving to the other area.

Select an option from the dropdown:

- Yes
- No

If yes, how much time?

Provide the amount of time the work crew is delayed that can be determined and proven, less any statutory allowed response times, e.g., excavator requested additional assistance or remarking and facility owner is given specific response times in state statutes. Select one of the following from the drop-down menu.

Less than 1 hour: 0:01 to 0:59

1 to 2 hours: 1:00 to 2:00
2 to 3 hours: 2:01 to 3:00

• More than 3 hours: 3:00 and above

Exact Value:

Unknown

Estimated cost of downtime?

Only costs that are associated with the delay and can be documented should be included in the cost of downtime. These costs should be taken into consideration statutorily allowed facility response times, e.g., excavator requested additional assistance or re-marking and facility owner is given specific response times in state statutes. Generally, the hourly or daily cost of a work crew is known. An event such as a mislocate may not delay the total crew. In addition, on a large project, the crew may be able to move to another area and continue working. In this case, include only the costs associated with the time required to move to the other area, and other documented costs.

Select one of the following from the drop-down menu.

- \$0
- \$1 1,000
- \$1,001 5,000
- \$5,001 25,000
- \$25,001 50,000
- \$50,001 and over
- Enter exact value: A new box will appear where an exact value may be entered.
- Unknown

Part H: Interruption and Restoration

Part H – Interruption and Restoration				
*Did the damage cause an interruption in service?	?□ Yes □ No □ Unknown			
If yes, duration of interruption	<6 hrs			
48+ hrs Exact Valuehr				
Approximately how many customers were affected	d?			
☐ Unknown ☐ 0 ☐ 1 ☐ 2 - 10	☐ 11 - 50 ☐ 51+ Exact Value			
Estimated cost of damage / repair/restoration: \$\sum \pm \pm 25,001 - 50,000\$	☐ \$0 ☐ \$1 - 1,000 ☐ \$1,001- 5,000☐ \$5,001 - 25,000☐ > \$50,000 Exact Value ☐ ☐ Unknown			

*Did the damage cause an interruption in service?

Select yes or no.

- <u>Yes</u>: Include all situations where any changes are required for the facility that actually affect customers or cause a deviation from normal operating capabilities.
- No
- <u>Unknown</u>: Select if none of the above apply. For example, a previously unreported damage is discovered.

<u>If yes, duration of the interruption:</u> Include the total time the facility operation has been impaired causing an actual interruption of service or deviation from normal operating capabilities. The duration of the interruption includes the time required to relight or activate service for ALL customers who are available for such service, or as can best be determined.

- <u>Less than 1 hour:</u> 0:01 to 0:59
- 1 to 6 hours: 1:00 to 5:59
- 6 to 12 hours: 6:00 to 11:59
- 12 to 24 hours: 12:00 to 23:59
- <u>24 to 48 hours:</u> 24:00 to 47:59
- 48 hours and above
- Exact Value:
- Unknown

Approximately how many customers were affected?

Use your best estimate, and update if more accurate information becomes available. Select one of the following:

- <u>Unknown</u>
- <u>0</u>
- · <u>1</u>
- 2 <u>- 10</u>
- <u>11 50</u>
- <u>51 or more</u>
- Exact Value:
- Unknown

Estimated cost of damage repair/restoration?

Include an estimate of the total costs for repairs, interruption of service, and other costs. Include the value of any lost product. Update the information in this field if additional costs are incurred or updated information becomes available. Select one of the following:

- \$0
- \$1-1,000
- \$1,001 **–**5,000
- \$5,001 25,000
- \$25,001 50,000
- \$50,001 and over
- Exact Value:
- Unknown

Part I: Root Cause

Select **one.** (See root cause definitions in the Glossary and descriptions below.)

5 5 6	
*Part I – Root Cause Select only one	
Notification Issue	Locating Issue
☐ No notification made to One Call Center/ 811	Facility not marked due to:
Excavator dug outside area described on ticket	☐ Abandoned facility
Excavator dug prior to valid start date/time	☐ Incorrect facility records/maps
Excavator dug after valid ticket expired	Locator error
Excavator provided incorrect notification information	☐ No response from operator/contract locator
Excavation Issue	☐ Tracer wire issue
Excavator dug prior to verifying marks by test-hole (pothole)	☐ Unlocatable Facility
Excavator failed to maintain clearance after verifying marks	Facility marked inaccurately due to
Excavator failed to protect/shore support facilities	☐ Abandoned facility
☐ Improper backfilling practices	☐ Incorrect facility records/maps
Marks faded or not maintained	☐ Locator error
Improper excavation practice not listed above	Tracer wire issue
Miscellaneous Root Causes	
☐ Deteriorated facility ☐ One (Call Center Error
Root Cause not listed (comment required)	

Notification Issue (Associated CGA Best Practices)

- No notification made to 811 (one call) center: Excavator did not provide notification of intent to dig to the 811 (one call) center. (BP 5-1)
- Excavator dug outside area described on ticket: Excavator did notify 811 (one call) center of intent to dig, but then dug outside of work area as described on ticket. (BP 5-1)
- **Excavator dug prior to valid start date/time:** Excavator did notify 811 (one call) center of intent to dig, but then dug before the stated start date and time. Include when excavator dug before markouts completed when facility operator or locator requested delay in accordance with state regulations. Include if excavator failed to check positive response system where required. (BP 5-1, 5-8)
- Excavator dug after valid ticket expired: Excavator did notify 811 (one call) center of intent to dig, but state law has a "life-of-ticket" which was exceeded without renewal or

renotification. NOTE: This should be selected for cases where a ticket renewal likely would have prevented the event. Example: Ticket is few days beyond expiration but marks are still visible. If marks are inaccurate, the root cause could be a Locating Issue. If marks are accurate, the root cause may be an Excavating Issue, such as not potholing or not maintaining clearance. If state does not have a life-of-ticket, consider "marks faded or not maintained" as possible root cause. (BP 5-1, 5-23)

• Excavator provided incorrect notification information: Excavator provided wrong information on 811 (one call) ticket, such as start date, worksite location, etc., either by voice or electronic (i-notice) notification to 811 (one call) center. (BP 5-1)

Excavation Issue (Associated CGA Best Practices)

- Excavator dug prior to verifying marks by test hole (pothole): Excavator did not hand dig or use a "soft excavation" practice such as vacuum excavation to dig a test hole (or pothole) to verify accuracy of markings prior to beginning excavation within the tolerance zone. Excavator did not continue to hand dig test holes on a regular basis during excavation. (BP 5-19, 5-20)
- Excavator failed to maintain clearance after verifying marks: Excavator failed to maintain a safe distance between excavating equipment and marked facility after verifying accuracy of marks (potholing) in accordance with state regulations. (BP 5-15, 5-18, 5-19)
- Excavator failed to protect/shore/support facilities: Excavator failed to provide proper shoring or support for marked and exposed facilities. (BP 5-22)
- Improper backfilling practices: Excavator failed to use caution while backfilling or compacting soils in or near marked and exposed facilities. Example: Large/sharp rocks or pieces of sidewalk or pavement in the backfill. (BP 5-27)
- Marks faded or not maintained: Marks were either destroyed or faded. Excavator failed
 to maintain marks or request re-marking by facility owner/operator. If state has a "life-ofticket" rule, consider "excavator dug after valid ticket expired" as possible root cause. (BP
 5-17)
- Improper excavation practice not listed above: Please consider the other Excavating
 Issue Root Causes before selecting this one. Excavator's methods and practices were
 improper and did not protect marked and exposed facilities but none of the other
 excavating practices apply.

Locating Issue (Associated CGA Best Practices)

These are sorted into two categories: Facilities were not marked/located at all, and facilities were marked/located but inaccurately. Several root causes appear in each category. Please take care to ensure the proper category is used.

<u>Facility not marked due to:</u>

• Abandoned facility: Facility not marked due to an abandoned facility in the area; facility owner/contract locator may not mark abandoned facilities or may not be aware that an

- abandoned facility is in the area. Operator maps/records indicated facility is abandoned, but it is actually active. (BP 4-11)
- Incorrect facility records/maps: Facility was not marked, or the ticket was cleared with no markout because facility is not mapped at all, or facility owner/contract locator's maps/records incorrectly indicate the facility outside the work area. (Example: Maps indicate facility is on opposite side of the street or the other side of the building.) Also includes when operator did not receive ticket because facility was not in 811 (one call) center's mapping data from the member. (BP's 4-1, 6-12)
- Locator error: Please consider other Locating Issue Root Causes before selecting this one. For example, if the lack of marks was due to incorrect maps, tracer wire issue, or unlocatable facility, choose one of those root causes. Facility not marked due to locator error examples: The locator misunderstood the requested scope of the ticket and failed to mark all of the facilities, or the locator cleared the ticket in error. (BP 4-5)
- No response from operator/contract locator: Facility owner/operator or their contract locator received a valid ticket, but did not mark, locate or communicate (e.g., positive response where required) with the excavator prior to the start of work. (BP 4-9)
- Incomplete marks at damage location: Please consider other Locating Issue Root
 Causes before selecting this one. For example, if the incomplete marks were due to
 incorrect maps, tracer wire issue, or unlocatable facility, choose one of those root
 causes. Choose incomplete marks at damage location if facility owner/contract locator
 responded to ticket and provided marks in the work zone but missed a facility (section or
 piece) and no other root cause applies.
- Tracer wire issue: Locator did not mark a facility due to broken tracer wire or there was no tracer wire available for the facility. (BP 2-5)
- Unlocatable facility: Facility owner/contract locator were unable to locate a facility due
 to the type of facility or depth. Examples: Clay or concrete sewer that cannot be
 detected with traditional locating equipment; excessively deep facility. If unlocatable due
 to missing or damaged tracer wire, consider "tracer wire issue" as possible root cause. If
 unlocatable due to lack of records or maps, consider "incorrect facility records/maps" as
 a possible root cause.

Facility marked inaccurately due to:

- Abandoned facility: Facility inaccurately marked due to an abandoned facility in the area.
 - From facility owner/contract locator point of view: Marked an abandoned facility in error or may not be aware that an abandoned facility pulled the signal/tone away from an active facility and the marks for the active facility were placed outside of the tolerance zone.
 - From excavator point of view: Potholed and exposed marked facility, then damaged another nearby facility. Investigation finds marked (potholed) facility is abandoned, and damaged facility is active. (BP 4-11)
- Incorrect facility records/maps: Facility was marked inaccurately due to incorrect facility records/maps. Example: Facility owner/contract locator's maps/records incorrectly

- indicate that the facility is on the opposite side of the street or the other side of the building and as a result the facility was marked inaccurately or outside of the tolerance zone. (BP 4-1)
- Locator error: Please consider other Locating Issue Root Causes before selecting this one. For example, if the inaccurate marks were due to incorrect maps or a tracer wire issue, choose one of those root causes. Facility was marked inaccurately due to locator error; the locator marked the work zone but did not locate a facility accurately; a facility was marked incorrectly or marked outside of the tolerance zone. (BP 4-5)
- Tracer wire issue: Locator marked a facility incorrectly and outside of the tolerance zone due to broken tracer wire, there was no tracer wire available for the facility, or tracer wire was too far away from facility. (BP 2-5)

Miscellaneous Root Causes

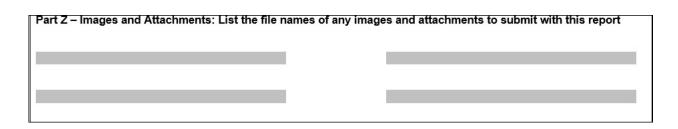
- **Deteriorated facility:** An existing deteriorated facility is discovered during the excavation activity. Example: Pipe is corroded or graphitized and vibrations or loss of soil support during excavation activity caused leak rather than contact with excavating equipment.
- 811 (one call) center error: Includes issues with 811 (one call) center-entered data and includes online tickets only if they were intercepted and approved by 811 center staff.
 Please select "Notification Issue Excavator provided incorrect notification information" for errors by online users not intercepted by 811 center staff. Please select "Miscellaneous Root Causes Root cause not listed" for ticket transmission and receiving site equipment failures.
- **Previous damage**: A significant period of time has passed from the actual damage to the failure or the discovery of the damage. Examples: Responding to water leak, gas odor, electric or telephone outage report finds evidence of previous excavation damage. Use date of discovery as date of event.
- Root cause not listed (comment required): Please consider other available root causes before selecting this. The cause of the damage or near miss is not addressed above. Explanation is required in the text box provided when using the online form. If submitting by bulk upload, an entry is required in the next column (DAMAGE_OTHER_DESC).

Part J: Comments

This text field (4000 characters maximum) is available for stakeholder to enter/add other applicable information. The stakeholder may use this field to assist them in tracking their damages.



Part Z: Images and Attachments



DIRT can be used to store digital images and attachments associated with an Event Report but can only be used for "one-at-a-time" events entered through the online tool, (e.g., cannot be done with a bulk upload).

The hard copy DIRT Field form can be used to record name and file location of the attachments, which can be uploaded to DIRT.



(BP) indicates that the definition comes from CGA's Best Practices Guide.

<u>811 (one call) center</u>: An entity that administers a system through which a person can notify owners/operators of lines or facilities of proposed excavations. (BP)

<u>Damage</u>: Any impact or exposure that results in the need to repair an underground facility due to a weakening or the partial or complete destruction of the facility, including, but not limited to, the protective coating, lateral support, cathodic protection, or the housing for the line, device, or facility. (BP)

<u>Depth of facility/cover</u>: The vertical distances, measured in inches or centimeters, from existing grade to the top of the facility that was damaged.

<u>Downtime</u>: Time that an excavator must delay an excavation project due to failure of one or more stakeholders to comply with applicable damage prevention regulations or best practices. There may or may not be a damage associated with the downtime.

Embedded: Fixed or contained within a surrounding mass.

Event: The occurrence of facility damage, near miss or down time. (BP)

<u>Excavation</u>: Any operation using non-mechanized or mechanized equipment or explosives in the movement of earth, rock or other material below existing grade. This includes, but is not limited to, augering, blasting, boring, compaction, digging, ditching, dredging, drilling, driving-in, grading, milling, plowing-in, pulling-in, ripping, scraping, trenching and tunneling. (BP definition – Any operation using non-mechanical or mechanized equipment, demolition, or explosives in the movement of earth, rock, or other material below existing grade.)

<u>Excavator</u>: Any person proposing to excavate or engaging in excavation or demolition work for himself or for another person. (BP)

<u>Facility</u>: An underground or submerged conductor, pipe or structure used to provide electric or communications service (including, but not limited to, traffic control loops and similar underground or submerged devices), or an underground or submerged pipe used in carrying, providing, or gathering gas (typically between the wellhead and transmission line), oil or oil product, sewage, storm drainage, water, or other liquid service (including, but not limited to, irrigation systems), and appurtenances thereto. (BP)

<u>Grade:</u> The surface of the earth (e.g., ground level) upon which a structure is built or prepared. (BP)

<u>Joint trench</u>: A trench containing two or more facilities that are buried together by design or agreement. (BP)

<u>Locate</u>: To indicate the existence of a line or facility by establishing a mark through the use of stakes, paint, flagging, whiskers, or some other customary manner that approximately determines the location of a line or facility. (BP)

Locator: A person whose job is to locate lines or facilities. (BP)

<u>Locate request:</u> A communication between an excavator and 811 (one call) center personnel in which a request for locating underground facilities is processed. (BP)

<u>Near miss</u>: An event where a damage (as defined above) did **not** occur, but a clear potential for damage was identified. (BP*) Some examples include, but are not limited to the following:

- a. An excavator discovers a buried facility that was not marked or not marked accurately.
- b. An excavator is found digging without having notified the 811 center
- c. An operator fails to respond to a locate request.
- d. An 811 center incorrectly entered data regarding the work site. *BP manual does not include the examples.

<u>Notice:</u> The timely communication by the excavator/designer to the 811 (one call) center that alerts the involved underground facility owners/operators of the intent to excavate. (BP)

<u>Positive response</u>: Communication with the excavator prior to excavation to ensure that all contacted (typically via the 811 centers) owner/operators have located their underground facilities and have appropriately marked any potential conflicts with the areas of planned excavation. (BP)

<u>Root cause</u>: The predominant reason that the event occurred. (BP) For purposes of the DIRT, the point where a change in behavior would reasonably be expected to lead to a change in the outcome, e.g., avoidance of the event.

<u>Ticket number</u>: A unique identification number assigned by the 811 (one call) center to each locate request. (BP)

<u>Tolerance zone</u>: A strip of land comprised of the width of the facility plus 18" (or dimension specified by state law) on either side of the outside edge of the underground facility on a horizontal plane.

White-lining: The space in which a line or facility is located and in which special care is to be taken. (BP)

Appendix A - Damage Prevention Institute (DPI) DIRT Participants

This portion of the User's Guide is intended to assist participants in the Damage Prevention Institute (DPI) when entering data into DIRT specific to the DPI DIRT Data Network. This document will be updated as the DPI program matures. Each month, by the end of the month, please submit complete and accurate information to the best of your ability. The data and metrics should be submitted for the prior month. For example, data and metrics (see metrics guidance below) for March are due by April 30.

Tutorials for DPI data submission can be found here.

Accredited DPI participants are required to submit all known damage event data and are encouraged to submit known near-miss data to CGA through the DPI DIRT Data Network, https://www.cga-dirt.com/dpi. To enable a more robust understanding of breakdowns in the safe excavation process, certain fields that are not mandatory for DIRT North America users are required fields for DPI participants, and some DPI-specific new flex fields are required in the DPI DIRT. Required fields have been identified in this guidance and are summarized below.

DPI participants should submit data on a monthly basis for the prior month. For example, data for the month of March is due by April 30. Please be sure to include all known damage events, including those involving hand tools, events that occur outside of the tolerance zone, events involving abandoned lines, and events involving facilities that are not members of 811 centers. For ease of submission, most required fields include dropdown menus, the option to fill in a specific number value that is not covered in the dropdown lists, and other/unknown. The use of other/unknown should be limited.

In addition to damage data, DPI participants submit data relating to additional metrics. Those submissions provide additional layers of information for analysis and will result in timely and meaningful reports for DPI participants. The metrics submission guidance is described below. CGA recognizes that not all DPI participants will have all metrics available for reporting when initially submitting information. Accordingly, certain requirements for metrics submission will be incorporated into the DPI as the program matures.

Additional/Required DIRT damage and near-miss fields for the DPI DIRT Data Network

Part D: Excavation Information

This should be yes if the work was performed by the organization's employee, rather than a contractor or sub-contractor. Otherwise, answer no.

Yes

^{*}Was the excavation performed by direct employees of your organization?

- No
- Unknown

Part E: Notification and Locating

*If yes, to what extent did facility owner/operators or locators provide positive response?

See "Positive Response" definition in Glossary.

- All facility owners notified provided positive response
- <u>Some</u> facility owners provided positive response
- <u>None</u> no facility owners provided positive response
- Unknown

*Was work area white-lined?

Was the work area to be excavated pre-marked with white paint, stakes or flags, etc., prior to arrival of the locator (see Glossary and Best Practice 5-2)?

- Yes
- No
- Unknown

*If yes, which best describes how work was white-lined?

See Glossary for additional information.

- · Physically onsite
- Electronically
- Unknown

Part G: Excavator Downtime

*Did the excavator incur downtime?

See definition of "downtime" in the Glossary. Downtime may occur with or without damage to a facility. For example, an excavator may be delayed while waiting for repairs to a damaged facility that was either incorrectly marked or unmarked. Alternatively, an excavator may discover a mislocated or unlocated facility with no damage occurring, but be delayed while the facility owner/operator corrects the situation. Time spent trying to find a correctly marked but hard-to-find facility does not constitute downtime.

Examples of downtime include delays associated with the following:

- 1. A mislocated or unlocated facility.
- 2. A facility owner/operator refusing to allow work near their facilities.
- 3. An excavator made proper notice to the 811 (one call) center, but upon arrival at the work site, or after checking with the positive response system (where required), finds on the start date that some or all of the operators have not completed the locates.

4. On a large project, the crew may be able to move to another area and continue working. In this case, include only the time required and costs associated with moving to the other area.

Select an option from the dropdown:

- Yes
- <u>No</u>

Additional Required Metrics

NOTE: Only excavators are required to enter metrics at this time. Participants are encouraged to submit other metrics if available, but the requirement to submit other metrics will be phased in.

Excavator Metrics

Actual work hours, per state. Hours worked should include all employee work
hours(regardless of type of work) over the month per state. If work hours are not
available for employees on salary or commission, hours worked may be estimated on
the basis of scheduled hours or 8 hours per workday. This is based on the OSHA
definition for work hours for their TRIR calculation.

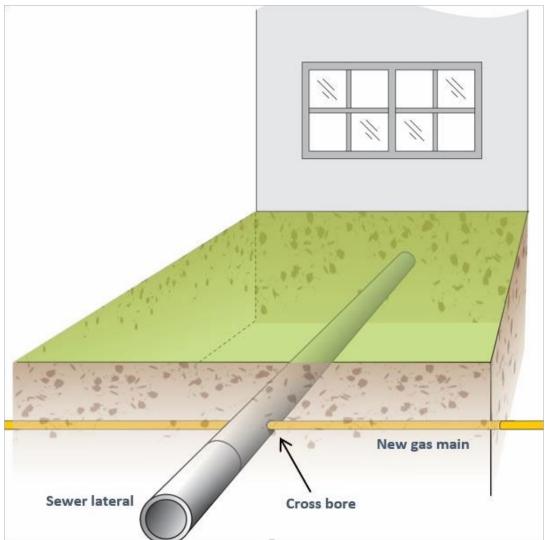
Locator Metrics

Locator metrics are under discussion with the DPI Metrics Sub-Committee. Further communication will come on Locator metrics once they are finalized.

Facility Owner Metrics

- All damages, with complete and accurate root cause information. (DIRT Incidents/Events)
- Number of locate tickets received.
- Number of trouble locate tickets received.
- Number of times that mapping record updates and mapping record corrections were made available to locators. DIRT will calculate a quarterly average for these monthly reports and compare the average to the previously answered profile question upon DPI enrollment.
- Number of times that mapping record updates were provided to the internal mapping records department (or equivalent department).
- Number of installation and/or replacement projects completed that required update to mapping records.

<u>Cross Bore Guidance</u>: A situation necessitating a "yes" response to the DIRT question about cross bores can include ANY event involving one buried facility intersecting another, and is not limited to gas services intersecting sewer lines. However, a gas service cross bore example is used here, as it is of most concern in the damage prevention community. A cross bore may not be detected at the time it occurs. For example, a natural gas service line may intersect a sewer pipe causing a sewer to back-up at a later time. A sewer cleaning service could then puncture the gas line.



Below are several examples with recommendations on how to select the **type of event, date of event, type of work performed** and **type of excavation equipment**.

The appropriate root cause would require judgement as to "the primary reason an event occurred." For example, if 811 was not notified, it could be a **Notification Issue** such as *No notification made to 811 (one call) center*. If 811 was notified, but buried facilities were not

marked at all or were marked inaccurately, the root cause could be a **Locating Issue**. If 811 was notified and facilities were marked correctly, the root cause could be an **Excavating Issue** such as *Excavator dug prior to verifying marks by test hole (pothole)*.

Using the example of a gas service bored through a sewer line, here are some scenarios and recommendations on how to complete a DIRT Report. In all cases the answer to "<u>Did this event involve a cross bore?</u>" is **Yes**.

- 1. Cross bore is realized/discovered promptly.
 - a. Type of event is Underground damage.
 - b. **Date of event** is date of occurrence.
 - c. Type of facility operation is sewer.
 - d. Type of work performed is natural gas.
 - e. Type of excavation equipment is drilling.
- 2. Natural Gas service is damaged during sewer clean-out, investigation finds latent cross bore:
 - a. Type of event is underground damage.
 - b. **Date of event** is date of discovery (i.e., date of gas service damage).
 - c. Type of facility operation is natural gas.
 - d. Type of work performed is sewer.
 - e. Type of excavation equipment is auger.
- 3. Cross bore situation is discovered in preparation for sewer cleaning (e.g., result of 811 notification or "clear before you dig" program (callbeforeyouclear.com) but before gas service is damaged.
 - a. Type of event is underground near miss.
 - b. **Date of event** is date of discovery.
 - c. Type of facility operation is natural gas.
 - d. Type of work performed is sewer.
 - e. Type of excavation equipment is auger.
- 4. Combinations of (1) and (2) or (3) date of original cross bore occurrence is known, and date of gas service damage or date of cross bore discovery is known: Submit two DIRT reports one for sewer per example (1), and one for natural gas per example (2) or (3).