Index

Page numbers followed by f or t indicate figures or tables.

near-miss incidents and, 15: abandoned utilities, inaccurate locates and, 58, one-call process and, 2; 60, 62 Alaska, 4 third-party damages and, 9 "Common Ground: Study of One-Call Systems American Public Works Association (APWA): and Damage Prevention Best Practices, uniform color code, 8t; of PHMSA, 4 Utility Location and Coordination Council, 3-4 construction activities, percentage of no locate Arizona, 62, 74 requests, 14 ASCE SUE standard, 25–27, 26f, 27f Damage Information Reporting Tool (DIRT), automatic fines, claim resolution and, 71 of CGA, 10, 11, 13, 15, 27, 35, 64, 69 damage investigation, 75–76; blasting/explosives, duty to report, 36 examples of damages, 39, 40f, California, 3, 69-70 sample incident investigation report, 81-85; "call before you dig." See one-call system sample investigation form, 90-94; Canada, 15 scenarios depicting, 76-80 case studies: National Grid, 64; damage prevention, 1-2; North Carolina One Call Center, 27-30. affected services by type of employer, 13, 13f; causes and trends in, 9-11, 10f, 12f, 13; 28f, 29f; SEGRA, 63-64 direct and indirect cost of damages, 14-15; claim resolution, 67; evolution of one-call system, 3-4; excavators' duties, in selected locales, criteria for adequate state enforcement program, 68; 48-51: elements of state requirements, 69; high-and low-risk activities, 75; enforcement models, 71-75; importance of finding root cause of federal oversight of, 67–71 damage, 11; Code of Federal Regulations (CFR), 14, 54, 68 locators and, 56; Colorado, 26-27 one-call process, 2-3, 2f, 10, 13-14; color guidelines, for marking sites. See marking, public outreach and, 14f, 24-25, 30f, of sites reporting of damages, 6, 39; state acts, 4–5, 17–19; Common Ground Alliance (CGA): best practices, 58-59; unknown facilities and, 62; creation of, 4; written programs for, 40-41, 54-55 Damage Information Reporting Tool Damage Prevention Act. See Underground (DIRT), 10, 11, 13, 15, 27, 35, 64, 69; Utility Safety and Damage Prevention Act 96 INDEX

landscapers, percentage of no locate requests, designers' and contractors' duties, 33; 14 in construction phase, 35-38; "locate number," in design phase, 34; in one-call process, 2 desirable excavator actions, 35-38; locate tickets, size, life, and types of, 5-6, 6t homeowners' responsibilities, 43-45, location information, designers' and 45f, 46f; contractors' duties, 35-36 safe excavation and, 38-41, 40f; undesirable actions, 41-43 mandatory positive response. See response, to Dig Safe Board (DBS), of California, 69-70 request for location Durham, NC, gas explosion in, 75, 85–89, 88f marking, of sites: colors and guidelines, 7. 8t: educational outreach, for one-call system, 14f, designers' and contractors' duties, 34; 24-25, 30f electric facility, scenario of invalid ticket and premarking, 6, 7f; damage to, 76-77 utilities and, 57–58, 58f; white-lining and, 35, 59 electric lines, locate challenges and, 61 Maryland, 3, 69 electromagnetic (EM) location technique, Michigan, 3, 59, 60f 56 - 57Missouri, 72-73 Electronic Positive Response (EPR), 6 municipal enforcement agencies, claim email address, importance of providing to resolution and, 71 one-call system, 36, 38 enforcement, states and one-call system and, 7 National Grid case study, 64 explosives/blasting, duty to report, 36 National Transportation Safety Board, 3 extraordinary circumstances, definition, 8 "near miss" events, costs of damage and, 15 New York, 23 false notice, legal prohibition of, 42 nontraceable facilities, delays and damages due fiber-optic lines, scenario of damage to, 78-79 to, 62-63 North Carolina: APWA color codes in, 59; Florida, 43-44, 71-72 damages in, 35; location request sample form, 47; gas lines, 40f; locate challenges and, 61; NC 811 case study, 27–30, 28f, 29f, one-call system of, 5; scenario of damage done to, 77-78. See also Durham, NC, gas explosion in percentage of deficiencies, 12f. State Utility Coordinating Committee of, 3; tolerance zone of, 8, 9f; homeowners' duties, regarding excavation, 43-45, 45f; Underground Utility Safety and Damage limited access for locators and, 57, 57f, Prevention Act, 8, 22-23, 27, 42, outreach to one-call system, 24; 73 - 74private versus public utility distinctions, 44, Occupational Safety and Health 45f, 46f Administration (OSHA) excavation horizontal directional drilling (HDD), 9, 36, standard, 14 43, 75; Office of Pipeline Safety (OPS), of Durham, NC, gas explosion abstract and, Transportation Department, 4, 67 86-88 One Call System International Committee, 4 one-call system, 21-30; Indiana, 22 case study, North Carolina, 27–30, 28f, 29; Kentucky, 4

INDEX 97

damage and failure to report digging, 10; screening centers, to prefilter requests, 55 definitions of key terms, 5–8; SEGRA case study, 63–64 educational outreach, 14f, 24–25, 30f, state attorneys general, enforcement and, evolution of, 3-4; 72 - 73federal definition of, 68; State Damages Prevention Act, 14 membership in, 53-54; subsurface utility engineering (SUE), 25–27, percentage of no locate requests and 26f, 27t damages, 13–14; surveyors, work of considered excavation, 34 process of using, 2–3, 2f states not requiring mandatory telecommunications: costs of damage and, 15; membership, 4; locate challenges and, 61; subsurface utility engineering (SUE) and, percentage of no locate requests, 14 25-27, 26f, 27t; third-party damages, 1, 9, 10-11 third-party damages and, 9; tolerance zone/approximate location: typical ticket creation, 21-22. See also definition, 7-8; Underground Utility Safety and example, 9t Damage Prevention Act tracer wires, 39, 40f, 56, 61, 62-63 Oregon, 44-45 Underground Damage Prevention Review passive locating, 57 Board (UDPRB), in North Carolina, 24 Pennsylvania, 3 Underground Utility Safety and Damage Pipeline Hazardous Materials and Safety Prevention Act (NC 811), 22-24; Administration (PHMSA), of US case study, 27-30, 28f, 29f, Department of Transportation, 4, 23; deficiencies and causes, 2, 9, 11, 12f, 14, 14f, claim resolution and, 67–71 SEGRA case study and, 63 Pipeline Inspection, Protection, Enforcement Uniform Color Code, 4 and Safety (PIPES) Act, elements of, 23 United Kingdom, costs of damage and, 15 pipeline operations: outreach of one-call Utility Location and Coordination Council, of system to, 25; APWA, 3-4 scenario of damage to, 79-80 utility owners' and locators' duties: case "potholing," 9, 35, 36 studies, 63-64; premarking, of sites, 6, 7f challenges for, 60–61; private versus public utility distinctions, desirable actions, 54-61, 56f, 57f, homeowners and, 44, 45f, 46f 58f, 59f; Protecting Our Infrastructure of Pipelines one-call center membership and, 53-54; Enhancing Safety (PIPES) Act, 68 undesirable actions, 61-63 railroads, 36-37 Virginia, code of, 22, 37-38, 39, 48-49 response, to request for location, 5-7, 22, 24, 27-29, 33-34, 36, 38-39, 42-44, 54-56, Washington state code, 49–51 58–60, 60f

water and sewer lines: damages and, 9–10; locate challenges and, 61; percentage of no locate requests, 14

"white line"/"white-lining," 35, 59

West Virginia, 24

review boards, claim resolution and, 73-75

safe excavation, nationally recognized steps in

Rochester Gas and Electric Company, 3

process, 38-42, 40f