



HORIZONTAL DIRECTIONAL DRILLING SONOMA COUNTY, CA

Specialized equipment and solutions to complex and difficult infrastructure projects.

Electric Utility - Renewable Energy - Water and Wastewater - Sanitary Sewer - Telecom - Gas

What We Do

Underground Division

Comprised of two dedicated crews, specializing in wet and dry utility and pipeline installation using Horizontal Directional Drilling. Our HDD crews have completed bores of up to 1500' in length and 18" diameter in solid rock.

Site Survey

- Utility mark and locate services using GPR and electromagnetic transmitter tools.
- Project layout, Topography Survey, control points, and elevations

Utility Design and Engineering

- Utility potholing and daylighting
- Bore design, engineering, and feasibility: rig size, tooling, product pipe considerations
- Plan and profile creation
- Soil sampling and profiling, rock testing for hardness and abrasiveness
- Civil PE services
- Permitting

Horizontal Directional Drilling

- Rock bores
- Street crossings
- Large diameter / long distance
- On-Grade sewer bores
- Services and mainline
- Slip lining or bursting with HDD
- River and creek crossings
- Under buildings and structures, dams, etc.
- Difficult access
- · Environmentally sensitive areas

Hydro-Vac

- Utility discovery and locate confirmation: pothole, top half, daylight
- Mass soft excavation: pipeline tie-in bell hole
- Soft trenching in areas congested with utilities when traditional means are not feasible
- Power pole foundations

Excavation

- Bell Holes and Bore Pits to support HDD operations
- Shoring deep excavations
- Saw cutting concrete and asphalt, break and haul off
- Joint trench

Renewable Energy Infastructure

- Vaults and duct runs
- Foundation excavation
- · Cast-in-place flagpole setup and pour

Power

- Primary and secondary duct runs and duct banks
- Vault installation: #5,6,7
- Overhead to Underground conversions
- Service, distribution, transmission
- Emergency services



What We Do

Underground Division cont...

Gas

- Service, distribution, transmission/mainline
- New construction and replacement
- Fusion: Butt, Electro-fusion, saddle, socket. PGE approved
- Bell holes and shoring
- Trenching, bedding, backfill, and compaction
- Restoration
- In-house traffic control

Telecommunications

- Fiber-optic pipeline
- Handhole and pull box installation

Water

- Water main and service installation
- Fire hydrants
- Shutoff Valves, backflow prevention, check valves

Sewer and Wastewater

- On-grade sewer bores. Slope capabilities as low as 2% fall using HDD.
- Accuracy within 1/10 of a percent.
- Manhole construction.
- STEP septic / sanitary sewer hybrid systems
- Force main sewer

Storm Drain

• Rain Inlets and mainline

Electric Vehicle Charging

- Primary and secondary ducts
- Vaults and pads
- Civil

Civil Construction

- Flatwork and pads for switchgear, transformers, generators
- Piers
- Hot Mix Asphalt

Fusion

- Certified fusion technicians up to 18" diameter pipe
- · Gas, water, sewer
- · Pipe testing services



What We Do

Power Division

Comprised of one dedicated crew geared towards heavy underground power and renewable energy projects. We have equipped them with the latest tools for crimping, pulling, testing, and performance measuring.

Design and Engineering

- Utility application support both new construction and upgrade
- Solar utility interconnection consultation
- Structural and Electrical PE
- Value engineering strategies

Renewable Energy Construction

- Feasibility, technology selection, site survey, consultation
- Solar PV ground mount foundation excavation, flagpole setting and concrete work
- Solar PV ground mount racking assembly
- Solar module installation including module-level electronics and string wiring
- Complete solar electrical construction both AC/DC architecture
- Wind turbines: grid-interactive and battery-based implementation

Solar PV Performance Analysis, Service and Repair

- Troubleshooting, diagnostic and repair
- IV curve tracing and meggar testing

Alternative Power Solutions

- Battery installation: utility-interactive, peak shaving, load-leveling
- Generator and transfer switch. Diesel, natural gas and propane
- Grid interactive and stand-alone systems
- Micro Grids
- Off-grid solar

Electrical Construction

- · Energized "hot work."
- Medium voltage
- Commercial, industrial, utility pipe and cabling
- Switchgear: upgrade or change out
- Panelboards and sub-panels
- Transformer installation and termination

Equipment Installation

- Electric vehicle charging stations
- Battery enclosures
- Central and string inverters
- Large transformers

Cable Pulling, Splicing and Termination

- Medium voltage
- Service voltage
- Low voltage / data

Power Diagnostic Testing, Troubleshooting, and Repair

- Scope meters and harmonics
- Fault finding

Technology Infrastructure

- 4G/5G sites
- Fiber Optic
- SCADA and DAS systems

About Us

A Company Built On Experience

After spending many years in the electrical industry with a focus on photovoltaic solar installations, Jeremy Greer established Westcoast Solar Energy back in 2009.

The solar company found a niche in the local market designing, engineering, and installing large scale ground mount installations at wineries, manufacturing facilities, and agricultural businesses. Due to the high cost of real estate in Sonoma County, the owners of these facilities usually requested the solar plant be installed far away from the electrical point of connection at the building. This presented a challenge in routing the conduit system to carry the power from the solar array to the grid. Jeremy turned to directional drilling as the solution.

Directional drilling was a significant competitive advantage on these projects due to the lower cost and disruption to the site. HDD technology was a key component to the solar company's award of a large scale solar installation at the Lagunitas Brewery. Jeremy began to see high demand for directional drilling and decided to launch Empire Earthworks in November of 2015 using the proceeds from the Lagunitas project.

For the next several years, Empire gained real-world experience performing HDD installations and civil construction on Westcoast projects. After sufficient training, Empire began offering underground services to general contractors as well as private and government customers throughout the state. In late 2019, Jeremy sold the solar company to focus on the growing demand for underground construction and HDD technology.

Empire has earned a reputation as "the problem solvers" by providing specialized equipment and solutions to complex and difficult infrastructure projects. Steep terrain, hard rock, difficult access, road crossings, and sites congested with utilities are examples of projects well suited for our expertise. We are proud to have established long-term relationships with many of our clients through competitive pricing, superior work, and service.



Safety

Our Success is Built on Safety

Empire HDD prides itself as one of California's top horizontal directional drilling companies.

Gold Shovel Standard is a non-profit association, chartered with expanding the use of Gold Shovel Standard (GSS) as a single, uniform platform across North America. GSS aims to be universally accepted for all excavation contractors to perform safely, every single time they work. The GSS program is built upon two equally important foundations: an administrative side and a performance-monitoring engine. The administrative side of the program requires that an excavation company have an adequate damage prevention policy consisting of training, commitment to follow applicable laws, leadership support, corrective action procedures, and whistle blower safeguards for employees.

Purpose-built technology is integral to the GSS program. The performance-monitoring engine employs technology created specifically for GSS to archive and reveal the safety performance records of excavators across networks (gas, electrical, sewer, water, telecom, etc.) and across geographic boundaries (e.g., out of state). Contained within the technology, is monitoring to ensure that incidents are reported and taken through their life cycle and to ensure that corrective action procedures are actually followed. Additionally, the technology is designed to interface electronically with Common Ground Alliance (CGA) databases (DIRT), and with popular vendor management programs, such as ISN, to offer easy adoption by companies already using those systems.

Pacific Gas and Electric conceived of and is implementing the GSS program throughout its operations.

Starting January 1st, 2016, PG&E is hiring exclusively GSS excavators. Implementation of the program at PG&E has generated significant learning and intellectual capital, all of which is being freely shared with industry. Furthermore, PG&E has recruited an external partner exclusively contracted to administer the program and providing the performance monitoring technology, purpose-built for the Gold Shovel Standard program.

Today, virtually anyone can perform excavation services, regardless of competency or commitment to safety. In the very near future, to work as an excavation company, one will have to be Gold Shovel Standard certified, which ensures a genuine commitment to safe excavation—regardless of when, where, or for whom the work occurs.

Gold Shovel Standard program's goal is to reduce dig-ins from professional excavators by 50% from existing levels prior to adoption of Gold Shovel Standard.

The Empire Advantage

Our Reputation

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PG&E OQ Certification

We staff eight eimployees with the following PG&E Operator Qualifications: OQ-0212 Install Pipe In Bore OQ-0404 Pressure Test for Facilities Operating below 100 psi (Leak Test) OQ-0507 Damage Prevention During Excavation OQ-0214 Tracer Wire OQ-2111 Mechanical Fitting (Stab)

Gold Shovel Standard Certification

Certifies that the company uses the highest standard of safe practices around underground utilities. Four years with 0 reportable incidents.

Pipe Fusion Certification

We staff eight employees with Certifications in Butt Fusion, Saddle Fusion, Socket Fusion, Electrofusion procedures for polyethylene pipe and fittings up to 10" pipe.

Safety Program

IIPP Safety Program, administered by Jim Persons, PGE approved safety contractor

Training Program

In-house classroom setting with beginner and advanced training curriculum to prepare our employees for the field. Pay Dirt Ranch is a 5-acre training facility located in Sonoma County to allow new drill operators and locators to learn to run the equipment in a safe, training environment.

Contractors State License

Board License #1011615 General Engineering A, C-10 Electrical, C-46 Solar Hazards Substance Removal **Member:** International Association Of Electrical Inspectors **Member:** IS Networld 400-250121 **SBA Certification ID:** 2023402

















2280 Gravenstein Hwy South, Sebastopol, CA 95472 (707) 757-5400 • bids@empirehdd.com