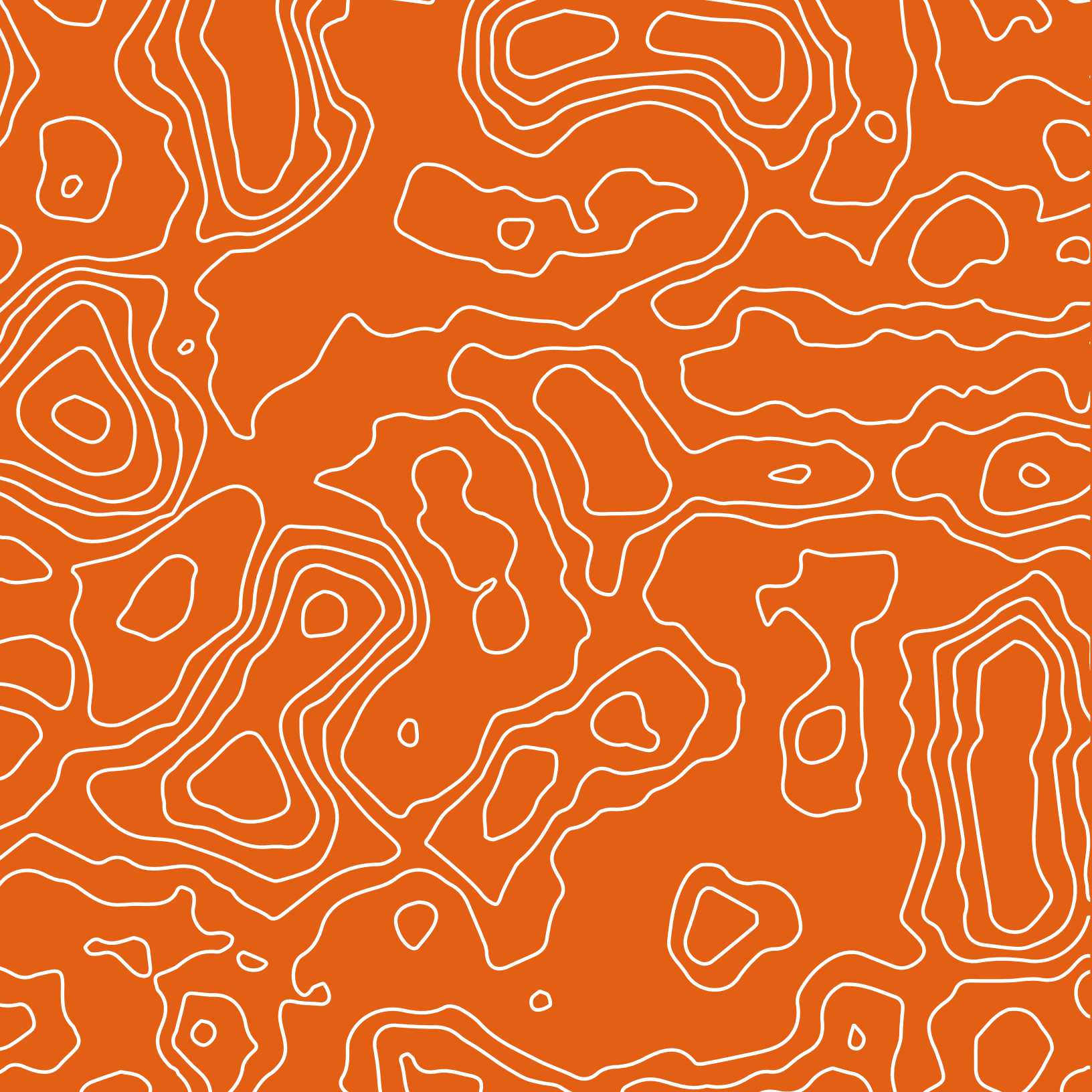




CHW



B R I N G I N G
C H A N G E
T H A T E V E R Y O N E
C A N F E E L .

AT CHW, we survey, plan, design, engineer, administer and inspect with a purpose: to positively transform the communities we serve. From designing municipal projects to engineering new roadway systems, we empower progress, concept to construction. Learn how we merge the practical and purposeful to move every client in the right direction.



S U R V E Y I N G + M A P P I N G

Focused on cost-effective accurate data collection and mapping for land acquisitions, site development, planning, architectural, and engineering designs. Our surveying professionals assist you in determining the scope of your surveying needs.

CHW's Surveying + Mapping team specializes in:

ALTA/NSPS Land Title Surveys

Commercial / Residential Boundary Surveys

Construction Layout Services

Platting Services, Design, and Lot Staking

Minor Subdivisions, Lot Splits, Boundary Adjustments

Topographic and Tree Surveys

As-Built / Record Surveys

Wetland & Environmental Surveys

Platting / Condominium Surveys

Hydrographic & Mean High Water Surveys

FEMA Elevation Certificates

Sub Surface Utility Locations

Aerial Mapping



S U B S U R F A C E U T I L I T Y E N G I N E E R I N G

Subsurface Utility Engineering (SUE) is a branch of engineering that involves utility design and relocation services. A critical component of providing support for a SUE project involves designating and locating existing underground utilities

Subsurface utility locations & designations provide utility conflict avoidance through mapping existing underground utility facilities. CHW utilizes surface geophysical technologies, vacuum excavation, surveying, and data management systems to provide Quality “A” through “D” designation.

Our goal is to apply our surface and subsurface mapping skills to improve our clients’ bottom lines and reduce their risks

CHW’s team of surveyors and mappers incorporate existing and emerging technology to identify, characterize, and map underground utility facilities throughout the project development process. This aspect of the design phase of building and construction helps manage the risks associated with unexpected encounters with underground utilities. Obtaining the most accurate mapping and information on the existing utilities through Subsurface Utility Engineering support service allows engineers to design the most efficient system and reduce project cost.



W H Y S U E ?

SUE is a process, not a technology. It defines SUE as a branch of engineering practice that involves managing certain risks associated with:

Utility mapping at appropriate quality levels

Utility coordination

Utility relocation design and coordination

Utility condition assessment, communication of utility data to concerned parties

Conflict avoidance

Utility relocation cost estimates

Implementation of utility accommodation policies, and utility design

These activities, combined with traditional records research and site surveys, and utilizing new technologies such as surface geophysical methods and non-destructive vacuum excavation, provide “quality levels” of information.

CHW uses several different methods to perform these SUE support services, depending on the different quality levels of data necessary for the project. According to the ASCE Standard 38-02, which is used across the A/E/C industry.

Levels of Subsurface Utility Engineering:

Level A | Underground Utility Locating

Level B | Utility Designation

Level C | Visible Surface Feature Utility Survey

Level D | Record Research + Data Collection

CHW has an extensive history of using multiple tools to retrieve the necessary level of data specific to a subsurface engineering project:

Electromagnetic induction tools help to locate conductive underground utilities.

State of the art ground penetrating radar equipment (GPR) is used to locate conductive and non-conductive underground utilities.

After the existing utilities are designated, the next step is to verify their locations at all points of interest, and whenever the new proposed utility route crosses an existing utility. Hydro vacuum excavation trucks are used to expose utilities for collecting accurate depth information critical for designated utility crossings. Vacuum excavation reduces the risk of damaging underground utilities and is especially useful in areas of high utility congestion or in confined spaces.



S U E I S A P R O C E S S , N O T A T E C H N O L O G Y .



P A S S I O N E M P O W E R S P R O G R E S S



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