Palos Verdes Peninsula Water Reliability Project
Construction Key Terms

Interested in learning more about the tools and techniques used for the construction of the Palos Verdes Peninsula Water Reliability Project? Below are key terms relevant to this project.

Backfill: After a trench is created and work is completed, excavated material is used to refill the trench. This process is known as backfilling.

Bearing Wall: Wall construction in which the wall supports itself, the roof, and floors.

Bedrock: A subsurface layer of earth that is suitable to support a structure.

CLSM (Controlled Low Strength Material): CLSM is typically a ready-mix concrete rather than soil cement, which is a low strength cement made using local soil, and is similar to a slurry. It is primarily used as a replacement for compacted backfill.

Conduit: Pipe or channel through which something passes, could be electrical or plumbing.

Control Valve: In the water industry, control valves are generally iron-bodied gate valves installed in the water mains, but also include many types of smaller bronze valves that perform special functions in connecting and controlling water in the end user's service line.

Drinking Water Treatment and Distribution: Drinking water treatment refers to the physical, biological, and chemical processes that make water suitable for drinking by ensuring that drinking water standards are met. A drinking water distribution system is an interconnected series of pipes, storage facilities, and components that convey drinking water and meet the fire protection needs of customers. Public water systems depend on distribution systems to provide an uninterrupted supply of pressurized safe drinking water to all consumers.

General Contractor: A contractor who enters into a contract with the owner of a project for the construction of the project and who takes full responsibility for its completion, although the contractor may enter into subcontracts with others for the performance of specific parts or phases of the project.

Grade: Ground level, or the elevation at any given point. This can also refer to the work of leveling dirt or the designated quality of a manufactured piece of wood.

Groundwater: Water from an aquifer or subsurface water source.

Grout: A wet mixture of cement, sand, and water that flows into masonry or ceramic crevices to seal the cracks between the different pieces. Mortar made of such consistency (by adding water) that it will flow into the joints and cavities of the masonry work and fill them solid.

Hydrostatic (Hydro) Testing: A process where components such as piping systems, gas cylinders, boilers, and pressure vessels are tested for strength and leaks.

Infrastructure: The underlying foundation or basic framework of a system. For water supply, this includes the canals, pipelines, pumps, reservoirs, and treatment plants that make up a treatment and delivery system.

Irrigation: Lawn sprinkler system.

Lateral (electric, gas, telephone, sewer, and water): The underground trench and related services (i.e., electric, gas, telephone, sewer, and water lines) that will be buried within the trench.

Main: The larger diameter pipes that carry potable water or natural gas throughout the area served by the water or gas purveyor.

Main Valves: Valves installed at tees (see *pipe tees*) or crosses where two or more water mains intersect, so that the mains can be isolated for emergency repair and maintenance.

Manhole: A small covered opening in a floor, pavement, or other surface to allow a person to enter, especially an opening in a city street leading to a sewer.

Masonry: Stone, brick, concrete, hollow-tile, concrete block, or other similar building units or materials. Normally bonded together with mortar to form a wall.

Permeability: A measure of the ease with which water penetrates a material.

Permit: A governmental municipal authorization to perform a building process as in:

- *Zoning\Use permit* - Authorization to use a property for a specific use e.g. a garage, a single family residence, etc.
- *Demolition permit* – Authorization to tear down and remove an existing structure.
- *Grading permit* – Authorization to change the contour of the land.
- *Septic permit* – A health department authorization to build or modify a septic system.
- *Building permit* – Authorization to build or modify a structure.
- *Electrical permit* – A separate permit required for most electrical work.
- *Plumbing permit* – A separate permit required for new plumbing and larger modifications of existing plumbing systems.

Pipe Tees: A pipe tee is a fitting that connects pipes at 90-degree angles to combine the flow of two lines or divide the flow of a single line.

Portland Cement: Cement made by heating clay and crushed limestone into a brick and then grinding to a pulverized powder state. The gray powder that is the "glue" in concrete.

Potable Water: Water that is safe for drinking and cooking.

Potholing: An excavation method that creates a test hole to expose underground infrastructure to determine the horizontal and vertical location of the facility.

Pump Station: A facility that pump fluids from one place to another, such as the supply of water to canals, the drainage of low-lying land, and the removal of sewage to processing sites.

Rubberized Asphalt Concrete: This is a specialized, noise reducing pavement material that consists of both regular concrete mix and recycled tires. This environmentally-friendly material will be used as part of final paving on the Peninsula's major roads, including Palos Verdes Drive North.

Sanitizing Pipes: After pipes have been placed in the ground, crews must sanitize and seal each pipe section to ensure there are no water leaks from the pipes when water runs through and prevent any contaminants from entering the pipeline.

Slope: The incline angle of a surface, given as a ratio of the rise (in inches) to the run (in feet).

Sound Attenuation: Sound proofing a wall or subfloor, generally with fiberglass insulation.

Steel Plates: Steel plates are thick metal coverings designed to close open trenches and can serve as temporary road plates, among other construction applications. These plates are necessary for the pipeline installation process as they provide crew members access to cleaning, water testing and tie-ins.

Stop Valve: A device installed in a water supply line, usually near a fixture, that permits an individual to shut off the water supply to one fixture without interrupting service to the rest of the system.

Surface Water: All water open to the atmosphere and subject to surface runoff. This includes all lakes, rivers, streams, and other similar bodies of water.

Temperature and Paving: In order for paving to occur, the ambient or air temperature must be at least 50 degrees Fahrenheit or warmer while the asphalt is being installed and compacted. Pavement that cools too rapidly will not reach the proper density, which will cause the pavement to ravel, leaving the surface rough and prone to expedited water retention.

Tie-in: To make the final connection (*e.g.* crews will tie-in the new pipeline to the existing water system as part of final pipeline installation).

Trench: A deep and narrow hole, or ditch, in the ground.

Trench Shoring: Involves the use of props to stabilize and brace the walls of trenches to prevent cave-ins and ensure a safe working environment.

Vent: A pipe or duct which allows the flow of air and gasses to the outside. Also, another word for the moving glass part of a window sash, i.e. window vent.

Water Tap: The connection point where the home water line connects to the main municipal water system.

Sources:

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