Concrete Pillar Monument Overview

302 Beth Bartel April 14, 2010 Concrete Pillar 12519

Concrete Pillar Monuments

Back to comparison table	Mount Commonly Used	Stability	Cost	Install Time	Labor	Substrate	
	 e.g. SECO 2072-series	med	$500-2,000	1-3 d	2-3	BR, U	

Concrete pillar monuments can vary greatly in design, but are generally simple monuments consisting of reinforced concrete set within a tubular concrete form. The leveling mount and GPS antenna are secured to a stainless steel pin which is anchored within the top of the pillar. The foundation of the pillar can be coupled to exposed bedrock or be a larger mass of concrete set within a pit in soil. The pillar's ultimate design may vary depending upon availability of building materials, location, site conditions, and project requirements. It is generally simple and easy to construct and can be used just about anywhere. The building materials are commonplace worldwide and typically very inexpensive.



Site TANZ in Dar es Salaam, Tanzania.

Pros

- Can be very inexpensive
- Materials and tools required are widely available
- Easy to construct (varies with design)
- Can be installed upon bedrock or in unconsolidated material

Cons

- Concrete can degrade over time through freeze-thaw action
- Weight of concrete mass can settle in certain unconsolidated materials over time

- Probably does not provide the long-term stability of a drilled-braced type monument

Design and Construction

Examples:

- Generic Design (simple)
- Red Butte, Utah
- Greenland
- Platteville, Colorado

Approximate Cost

$500-2000 (depending on materials used)

This cost is for the monumentation only; the antenna mount (e.g. SCIGN mount) is not included.

Required Materials, Tools, etc.

The following is a list of materials and tools needed for a very basic pillar design. More complex pillars may require additional tools and materials.

- concrete
- rebar
- water
- sono tube (concrete form)
- stainless steel monument pin with machined grooves and 5/8" thread for antenna
- shovel and pickaxe
- concrete mixer
- hacksaw (for cutting rebar)

Mount Commonly Used



Any leveling mount is acceptable. We currently recommend the SECO 2072-series stainless steel mount, which is simple and cost-effective. A SCIGN mount must be used if using a SCIGN radome.

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