Pervious Concrete

Pervious concrete pavement is a unique and effective means to address important environmental issues and support green, sustainable growth. By capturing storm water and allowing it to seep into the ground, porous concrete is instrumental in recharging groundwater, reducing storm water runoff.

In pervious concrete, carefully controlled amounts of water and cementitious materials are used to create a paste that forms a thick coating around aggregate particles. A pervious concrete mixture contains little or no sand, creating a substantial void content. Using sufficient paste to coat and bind the aggregate particles together creates a system of highly permeable, interconnected voids that drains quickly. Typically, between 15% and 25% voids are achieved in the hardened concrete, and flow rates for water through pervious concrete are typically around 480 in./hr (0.34 cm/s

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Environmental Benefits

- Eliminates untreated storm water and creates zero runoff!
- Directly recharges groundwater
- Mitigates "first flush" pollution
- Protects streams, watersheds, and ecosystems
- Mimics the drainage and filtration of bioswales and natural soils
- Reduces surface temperatures and heat island effects
- Provides a higher albedo surface reflectivity index (0.35 or higher)
- Eliminates need for expensive collection and detention systems

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Development Benefits

- All storm water catch basins structures within the plat
- All storm water piping to detention vaults and ponds and their subsequent maintenance and bonding
- The need for detention vault/piping systems and their many problematic issues
- The need for interior plat curbing
- The oily asphalt road surfaces while replacing them with a thick, rigid concrete surface with a 30+ year life expectancy

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Financial Benefits

- A pervious infrastructure is much more profitable for the developer
- Eliminates time consuming and costly storm water detention vaults and piping systems
- Eliminates the cost of curb and gutter installations
- Reclaims lots otherwise consumed by vaults and ponds

A storm water infrastructure that utilizes pervious concrete is great for the environment, speeds the development process, and is more profitable for the developer!

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Drawbacks of Permeable Pavement

- Unfortunately, there are some disadvantages that come along with permeable pavements. They include:
- It is more expensive to install as compared to traditional pavements.
- The maintenance requirements of permeable pavement are quite different. It is prone to clogging if the water in the reservoir isn't drained out properly. The sand and fine particles that can block the space between the pavers must be removed using an industrial vacuum. It can even clog when you sand for ice during the winter. If you do not cater to clogging quickly, it will cause the water and pollutants to run off the surface, defeating the purpose of installing permeable pavement.
- They aren't as strong as traditional or asphalt pavements. If you put consistent pressure (like heavy vehicle braking) on it, then the pores of the pavement will collapse. Due to this, permeable pavement isn't ideal for building airport runways and highways.

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