

Stuart's Hibiscus Road

Restoring Harmony to a Neighborhood With the Use of Pervious Concrete

By Vicki Gervickas

Best known for its aesthetic and environmental appeal, pervious concrete can now lay claim to restoring harmony to a Stuart neighborhood. Though it was never acrimonious, the battle whether to pave or not to pave picturesque Hibiscus Road, located in the heart of the revitalized downtown, had been waged since the development was built in the 1980s. This small stretch of dirt road, besides being home to less than a dozen residences, features the Possum Long Park and Nature Center on its west side. The homeowners who formed the pro-paving contingent were tired of the mud puddles encountered during the rains and the dust clouds raised during droughts. However, the anti-paving group claimed that those inconveniences were hardly enough to justify sacrificing the glorious trees, whose branches form a canopy over the street, to construct a mundane asphalt road.

Enter pervious concrete. Though it has been around for years, and can be

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found in Stuart at such locations as the Martin Memorial Medical Center, Bono's Pit Bar-B-Q and Eckerd's, the product was new to Stuart Public Works. When the crew at Kara Construction heard about the dilemma, they were quick to propose a solution they felt would please both the pro- and anti-paving camps on Hibiscus Road. Pervious concrete, a cement-based product, has a porous structure that allows rainwater to pass directly through the pavement and into the soil naturally. This is achieved without compromising the strength, durability or integrity of the pavement. David Meskauskas, a principal with Kara Construction, tells the story: "The city of Stuart had put out the bid for this job to asphalt companies, and nobody responded, probably because it was too small of a job. At that time, I was talking to city officials about a subdivision we had recently completed using pervious, and had provided them with some information about the product. They were intrigued by the idea, and when we gave them the price, they accepted it."

Though not yet a household name, pervious materials have been used worldwide for decades. They are being used in Europe and Africa as a homebuilding material and in the United States, Japan and Australia as a paving material for storm water and urban heat island mitigation. The U.S. Green Building Council, which operates the Leadership in Energy and Environmental Design (LEED) certification program to promote sustainable development, gives credits for the use of pervious materials like

pervious concrete in construction projects.

The material has also proved to be effective in colder regions where freeze-thaw is a problem. The state of Florida has led the United States in the construction of pavements using pervious concrete, and there have been hundreds of projects completed statewide that have used the material. Meskauskas credits Don Kahle, Kara Construction's founder and owner, for recognizing the capabilities of pervious back in the early 80s. "Don saw it and mastered it, and that's why we're specialists in it today." In fact, Meskauskas continues, the firm has installed more than a million square feet of pervious concrete to date, and the potential is only growing.

What makes pervious so attractive to developers and environmentalists alike is that ability to let water pass right through. Meskauskas says, "Once cured, pervious concrete has a porous texture that allows water to drain through it at the rate of 8 to 12 gallons per minute, per square foot. That's impressive considering tests conclude that a square foot of bahia sod drains at the rate of 2.5 to 3 gallons per minute."

For the Hibiscus Road project, which measured about 850 yards, the Kara team took special care to work with the concerns of the homeowners. After more than two decades of debate, it was particularly important to have the residents on board. Says Meskauskas, "We talked with every homeowner on the block and got their confidence. We promised them we would make

this as painless as possible on them." For the job, the team used the *FC&PA Pervious Pavement Design Manual* as a guide, and placed the concrete in sections that helped maintain the curving nature of the road. The team also went the extra mile by keeping homeowners and Stuart residents aware of street closings through newspaper ads and flyers at the post office.

With the job successfully completed, long-time resident Paula White can happily attest to the benefits of pervious: "Though our street is right in the middle of everything, downtown and shopping and all, it's like living in the country here, because of the dirt road and the wildlife center. When they started talking about paving it, and at first they said they were going to make it a straight road, I just had a fit because we have all these beautiful trees. But after all these years, they came up with the idea of using pervious concrete, as well as making it only 14 feet wide and following the curve. Though I'd been fighting this for 22 years, I could see a happy medium with pervious."

White says that it had been a real problem on the street, because the neighbors who wanted the road paved had only the best intentions: the dust was a real problem, particularly for those with allergies. She continues, "I didn't want the neighbors to be unhappy, but a straight asphalt street through here would ruin the ambiance." Today, everyone in the neighborhood is happy, so much so that several residents paid to have their driveways paved in



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pervious concrete. Says White, "It's just beautiful, and it's so nice to drive on. I was amazed. It's something I never wanted, but I love it."

FC&PA has developed a course, with an accompanying manual and video, which addresses the basic design and construction techniques necessary for successfully

installing pervious concrete. When properly installed, pervious is excellent for use in parking lots and local roads with minimal heavy traffic. For developers, who must balance the demands of DEP requirements without sacrificing square footage or parking spaces, pervious concrete can provide the solution, if the proper techniques are used.

Rather than setting aside a portion of land for water retention, the pavement itself can double as the retention area. Concludes Dave Meskauskas, "Pervious concrete is an outstanding product in the right application. As it gains more widespread use, it will be a very positive thing for the environment." **FC**