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Stormwater options to be studied

Jacksonville company to devise solutions; developers to pay

By PETE SKIBA
PSKIBA@YAHOO.COM

Motor oil, pesticides, automotive coolant, litter, seepage from a trash bin — all the remnants of life in a modern downtown — could easily wash into the canals running through Cape Coral when a drenching rain comes pouring down.

Finding a way to divert, clean and reuse stormwater in the urban design for the city's 432-acre Community Redevelopment Area, its planned new downtown, will be a challenge, officials said.

The city hired the Haskell Co. of Jacksonville to complete a study that would list stormwater runoff problems and provide options to solve those problems.

"We are going to develop the most cost-effective solutions that satisfy water quality standards and the objectives of the CRA," said Peter Kinsley the company's water division leader.

The city and the company have to define the extent of the study and possible designs the company would provide before a cost for the study is assessed, Kinsley said.

The costs of the study and the stormwater treatment system would be passed on to the developers, who in turn would pass it on to their customers.

Florida's stormwater rules apply mostly to new development. The rules for redevelopment projects, such as the one in Cape Coral, are judged on a case-by-case basis, said Kurt Harclerode, spokesman for South Florida Water Management District.

Redevelopment projects can have increased amounts of water runoff under the rules but they must meet the same standards of quality as new developments.

To do this in the planned urban area a few innovations might be used.

WATER TREATMENT TERMS

Swale
• A hollow depression or low land area, usually covered with grass. It acts much like a gutter to carry water to a retention pond, catch basin, treatment plant or a larger body of water.

Retention pond or area
• A man-made pond where water is collected and debris is allowed to settle out to the bottom. Water percolates or seeps through the soil to the aquifer below leaving the effluent behind.

Catch basin
• Man-made cement box that serves the same purpose as a retention pond but much smaller. The effluent sinks to the bottom or sump while the clean water on top overflows into a pipe taking it to a larger body of water such as a Cape Coral canal. The bottoms of basins must be cleaned to be effective.

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Cape Coral does not have a stormwater treatment plant. One could be built in the community redevelopment area, Kinsley said. The water could be treated and then released into the canals.

Another option for the treated water would be to inject it back into the

The plant could be made architecturally attractive.

"I've seen a barn with cows out in front that was actually a water treatment plant," Kinsley said. "The architecture could be designed to match the CRA and there are ways to keep the smells inside the building."

Other possible solutions that have been used in places such as Martin

storage tanks hidden in parking garages and the design of parks with lakes to accompany the development. The lakes would act as holding areas for stormwater runoff in the area.

"That is some of what we will be doing with the study," Kinsley said. "Coming up with innovative solutions."

The objectives of the community redevelopment area include bringing offices, condominiums, free-parking garages, movie theaters, restaurants and other amenities to the city's downtown.

In rebuilding a downtown where people would be encouraged to park and walk, the designs envisioned by developers are modeled after Mediterranean main streets and squares.

The problem is that wherever people live, work and play they bring their cars, pets, takeout food containers and the other effluent that comes with a modern society.

Rain could take the trash to the canals without a way to clean or retain the nasty stuff. In an urban design putting the usual retention ponds and catch basins designed to hold water and allow the water to percolate through soil into the ground below wouldn't work, officials say.

Imagine walking down a main street and then coming upon a dry retention area in the middle of the block. It is a gap. A smile with a missing tooth is OK on a 10-year-old child, not a city street.

Encouraging downtown development involves making it economically feasible for the developers. It makes sense for a redevelopment area to

formerly the chief executive officer of South Florida Water Management District.

That is the same agency which will have to allow any plans for stormwater treatment in the community redevelopment area to be built.

"A good example is the system in West Palm Beach," Poole said. "The runoff from that site gets collected in a system that treats the water as a municipal supply source. Pollutants are removed and the water is returned to the city water system."

Treatment of stormwater as a city function allowed development of a very

compact, urban area in that city. If the problem were handled piecemeal it would have been less effective and vastly more expensive, Poole said.

New developments and the majority of Cape Coral use retention ponds, swales and catch basins, said the city's stormwater supervisor John Ridge. Eventually the water percolates down into the ground below, leaving the dirt in the earth or the catch basin.

Water flowing into catch basins, concrete boxes which can range from about 33 inches square to 6 feet square, allow the sediment to sink to the bottom and the water to flow out a 24-inch pipe at the top.

Although the basins seem small they are efficient with the water in constant motion into and out of the box, Ridge said.

Then the water either finds its way into the aquifer, the canals or the Caloosahatchee river, Ridge said. Catch basins are on a regular cleaning schedule, he said.

"Our first line of defense are the street sweepers," Ridge said. "They are out there keeping the streets clean before the water hits to carry anything to the canals."