

"Federation Corner" column
The Montgomery Sentinel - January 11, 2007

County needs green Road Code

by Wayne Goldstein

One of the first, and certainly biggest, bills to be introduced by the new County Council, is Bill 48-06, "Streets and Roads - Comprehensive Revisions." Now being called the "Road Code" by many, this 118-page omnibus document has it all. In fact, "omnibus" is Latin for "a whole bunch of stuff." It has everything from road widths to covered loads to teamsters staying with horse-drawn carriages to hitchhiking. Introduced by Councilmember Floreen, as well as Council President Praisner and Councilmember Trachtenberg, one of the goals of the revisions are to "Create more pedestrian-friendly street environments" by such actions as narrowing roads to reduce the speed of traffic. The bill's intent is to also promote more sidewalks, hiker-biker shared use paths, and street trees. There are appropriate references to how reducing road widths and planting more trees can improve the immediate experience of whomever uses them, what planners call "context-sensitive solutions."

However, what is missing from this list of comprehensive revisions are requirements to construct roads to minimize the negative impact of the stormwater that runs down them and ends up in streams - eroding, polluting and further degrading them. Most people don't realize that when stormwater on the street goes into those storm sewers, it reemerges at the end of that sewer at the edge of a stream. While the tremendous amount of imperviousness caused by buildings, parking areas, as well as roads requires continuing to rely on those storm sewers, this does not mean that there are not very affordable actions we can take to reduce this existing runoff.

The County Council passed green building legislation a few months ago, which can help reduce some of the negative environmental effect of new buildings, including stormwater runoff, through such actions as building green roofs. In October, I wrote a column about this new program, where I compared our efforts to require conformance with the LEED program to what Portland, Oregon required. Portland began its program in early 2001, and has increased the requirements over the years. Montgomery County started its program almost six years after Portland, and I expect that environmentalists will demand a steeper learning curve as we go from beginner to intermediate to advanced status as we play catch up with Portland.

It should thus come as no surprise that Portland is far, far ahead of us and almost everywhere else in its approach to what it calls its "Green Streets" program to control stormwater runoff next to and even through its roads and parking areas. In 1999, Portland applied for a \$500,000 federal grant, including \$100,000 to "create an environmental design handbook for transportation, called 'Green Streets: Environmental Design for Transportation'... Key environmental goals are to minimize stormwater runoff impacts (by reducing the quantity and improving quality), to protect sensitive fish and wildlife species, and to reduce additional threats of downstream flooding due to new development. The BMPs [Best Management Practices] developed in this pilot project will provide a model that will be applied to other urban reserves and adapted to individual situations as needed. The BMPs will be monitored and evaluated in order to adapt the BMP designs and improve their effectiveness over time."

Today, Portland's web site states: "The Green streets handbook is now available [\$14.95]. The handbook describes stormwater management strategies and includes detailed illustrations of "green" street designs that allow infiltration and limit stormwater runoff." The web site of the Portland Bureau of Environmental Services is full of details: "Stormwater curb extensions are landscaped with plants that help filter pollutants from stormwater runoff. They improve water quality, reduce stormwater flow, and they look good. In streets where landscaped curb extensions aren't feasible, there are several sustainable stormwater management

alternatives, including: *Swales that infiltrate and store stormwater runoff; *Lowered planter strips; *Permeable surfaces, such as porous paver blocks and pervious asphalt or concrete..."

"The SW 12th Avenue Green Street at SW 12th and Montgomery on the Portland State University campus utilizes a series of landscaped stormwater planters designed to capture and infiltrate approximately 8,000 square feet of street runoff. This innovative streetscape project effectively manages street runoff while still maintaining strong pedestrian circulation and on-street parking... The 12th Avenue Green Street project disconnects street stormwater runoff from a storm sewer that drains directly into the Willamette River and manages it on-site using a landscape approach. Stormwater runoff from SW 12th flows downhill along the existing curb until it reaches the first of four stormwater planters. A 12-inch curb cut channels the street runoff into the first stormwater planter. Once inside the planter, the water is allowed to collect until it reaches a depth of six inches. The landscape system within each planter allows the water to infiltrate in the soil at a rate of four inches per hour.

"If a rain event is intense enough, water will exit through the planter's second curb cut, flow back out into the street and eventually enter the next downstream stormwater planter. Depending on how intense a particular storm is, runoff will continue its downhill "dance" from planter to planter until all of the stormwater planters are at capacity. Once exceeding capacity, the water exits the last stormwater planter and enters the storm sewer. With the new stormwater facilities now in place, nearly all of SW 12th Avenue's annual street runoff, estimated at 180,000 gallons, is managed by its landscape system.

At another location: "Interconnected stormwater swales ring New Seasons Market, receiving stormwater runoff from the building's rooftop, outdoor plaza and parking lot. Three stormwater planters within a 6-foot planting strip between the sidewalk and street curb slows and filters runoff from Division Street. Stormwater from a roof downspout showers a sculpture at the building's NE corner... When the vegetation is established, the design has the potential to remove about 1,000,000 gallons of stormwater runoff from the combined sewer system annually. A preliminary design without this attention to stormwater removed only 1,000 gallons."

Finally this: "The North Gay Avenue Pervious Pavement Pilot Project had two main goals: * To permanently re-pave streets damaged during the sewer work in 2001. The old concrete streets cracked badly, and the current asphalt is of temporary quality. * To provide information on how porous concrete and asphalt perform as a street surface. Porous pavement allows rain to soak through street and into the ground... Environmental Services received grants from...EPA in 2002 and 2003 to allow the City to test new ways of handling stormwater. The Gay Avenue project is one of several partly funded by the EPA grant. Pervious pavement works! Water sprayed from a flusher truck disappears into the new pervious asphalt pavement on North Gay Avenue before it reaches the gutter.

"... This is a pilot project to learn how well different pavement materials handle stormwater and hold up as a street surface. For this reason, the City installed four different pavement combinations on Gay... porous concrete curb-to-curb... porous concrete in both curb lanes, standard concrete in the middle travel lanes... porous asphalt curb-to-curb... porous asphalt in the curb lanes only."

Portland is way ahead of Montgomery County, having spent the last seven years studying and experimenting with new ways to control stormwater runoff next to and even through its roads, using federal grants to both pay for the cost and to inform the federal government of its ground-breaking work. Furthermore, the state of California "permits about 50 projects per year that involve porous materials, which typically are used for undertakings that have lighter loads such as sidewalks or parking lots."

When the County Council indicated its support last summer for innovative ways to control stormwater runoff as it related to renewing our "Clean Water" permit, it also provided funds for pilot projects. While some of

that money could be used for pilot projects concerning our roads and parking areas, it also time for us to start playing catch up with Portland in another important way by writing authorizing language into our "Road Code" that will require the same study, experimentation and change in how we build our roads so that we too can look forward to creating our own "Green Streets" program in our county.