

# (12) United States Patent

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## COMBINATION ABOVE GRADE AUTOMATIC METHOD OF STORMWATER SEPARATION AND FILTRATION

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## Related U.S. Application Data

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#### (56)References Cited

### U.S. PATENT DOCUMENTS

4,504,397	*	3/1985	Matthews 210/804
5,135,662	*	8/1992	Но 210/709
5,498,330	*	3/1996	Delle Cave 210/103
5,536,420	*	7/1996	Oyzboyd 210/804
			Rhodes 210/242.1

<sup>\*</sup> cited by examiner

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#### (57)**ABSTRACT**

A method and system for treating stormwater runoff containing impurities includes collecting the runoff in a basin and allowing the runoff to settle in the basin for a predetermined time before allowing the filtration step to be initiated. The time delay is controlled by a controller sensitive rain fall, turbidity, or other variables selected by the user. During the filtration step a separator member is positioned floatingly between a filter element and impurities floating on the surface of the unfiltered water.

# 11 Claims, 11 Drawing Sheets

