## INTEGRATED MUNICIPAL STORMWATER AND WASTEWATER PLANNING: AN AVENUE TOWARD NUTRIENT REDUCTION?

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Abstract. Recently the US Environmental Protection Agency (EPA) has increased its efforts to support integrated stormwater and wastewater planning by municipalities. In June 2012, the agency released an Integrated Stormwater and Wastewater Planning Approach Framework that discusses Principles, Elements and Implementation of integrated plans. The framework document places a significant emphasis on Green Infrastructure practices and Low Impact Development (LID) techniques. In a separate initiative, EPA has recognized the importance of control of nutrient pollution from both point and non-point sources. The agency's memorandum of March 2011 presents a framework for states to manage Nitrogen and Phosphorus pollution. Some state departments of environmental protection have been developing Nutrient Criteria Plans or even numeric limits in response to EPA's framework document.

This presentation will explore the requirements and potential synergies between these two emerging regulatory trends. Often local governments' options for improving water quality are constrained by their jurisdictional boundaries, previous development and incompatible upstream land uses. Reduction in stormwater contributions to stream loads may be a cost-effective measure, particularly in TMDL-limited areas. Potential actions that municipalities may want to consider will be discussed, as well as the issues that would need to be addressed for integrated stormwater and wastewater programs to be successful.