



# Stormwater Management, A Comparison of Standards

February 26, 2008



# [ Stormwater Rule Comparison ]

For an example development...

- How do stormwater rules affect runoff volume, rates, and water quality?
- How much does it cost to develop a site under various stormwater rules?

# [ Stormwater Rules ]

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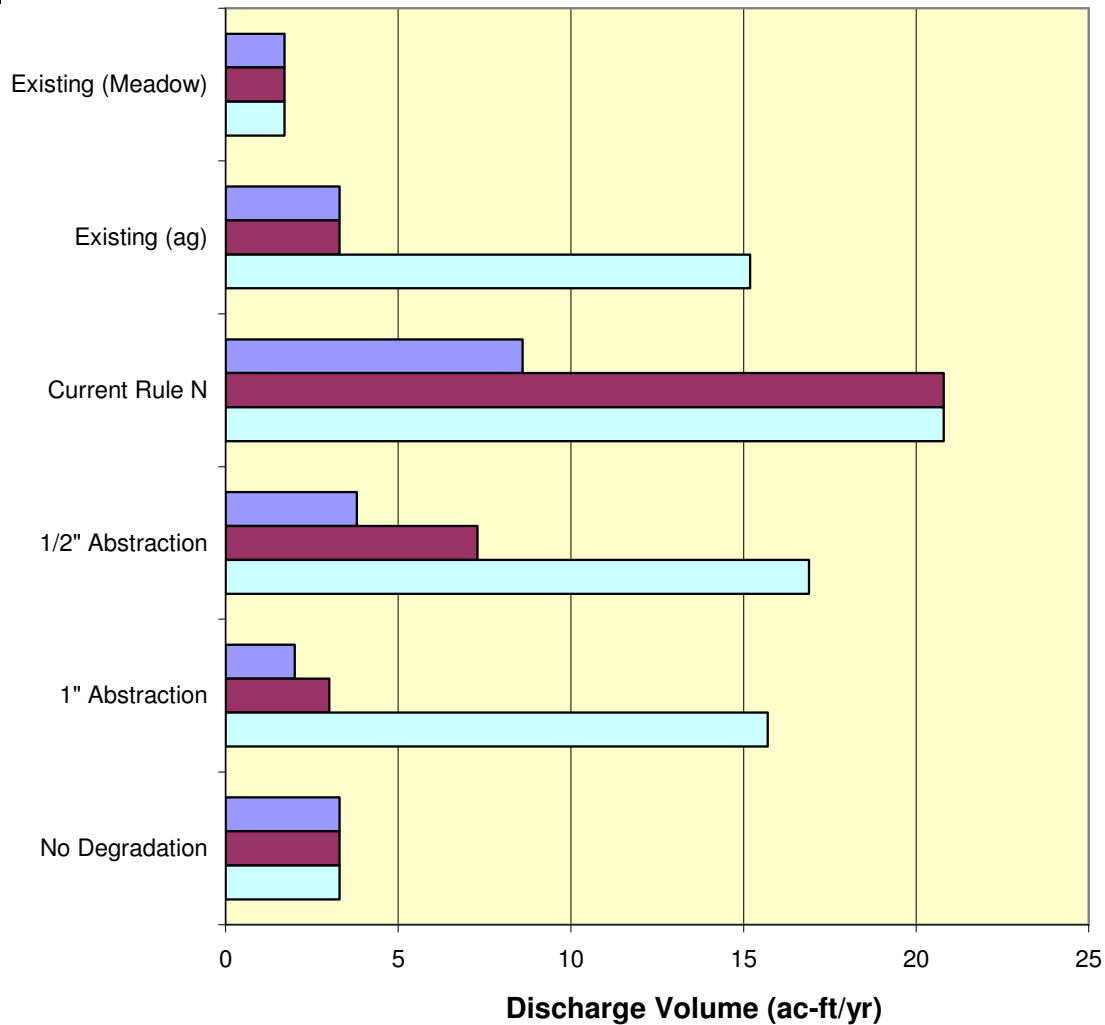
- Existing Conditions (meadow)
- Existing Conditions (agriculture, P8)
- Existing Conditions (agriculture, Scott County)
- Current Rule N requirements
- 1/2" Runoff abstraction
- 1" Runoff abstraction
- No Degradation

# [ Example Developments ]

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- 10 acre residential, 1/3 acre lots
- 10 acre commercial, new 80% impervious
- 10 acre commercial, 60% existing impervious redeveloped to 80% impervious

# Volume Control

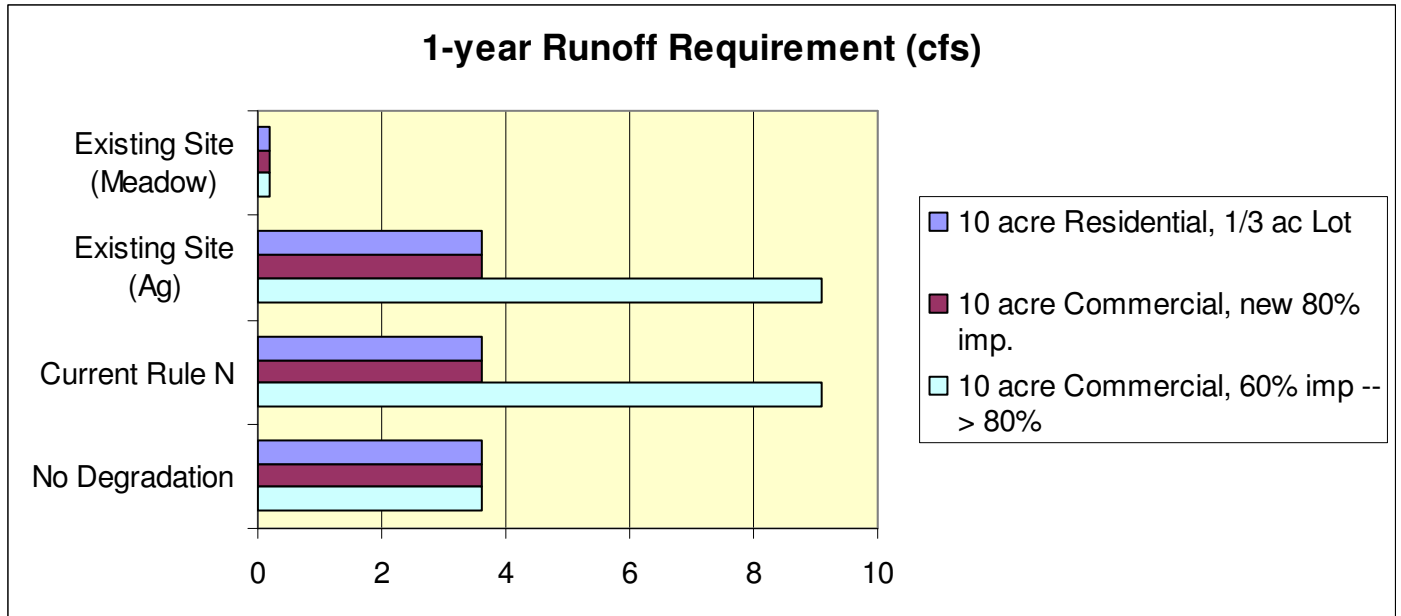


- 10 acre Residential, 1/3 ac Lots
- 10 acre Commercial, new 80% imp.
- 10 acre Commercial, 60% imp --> 80%

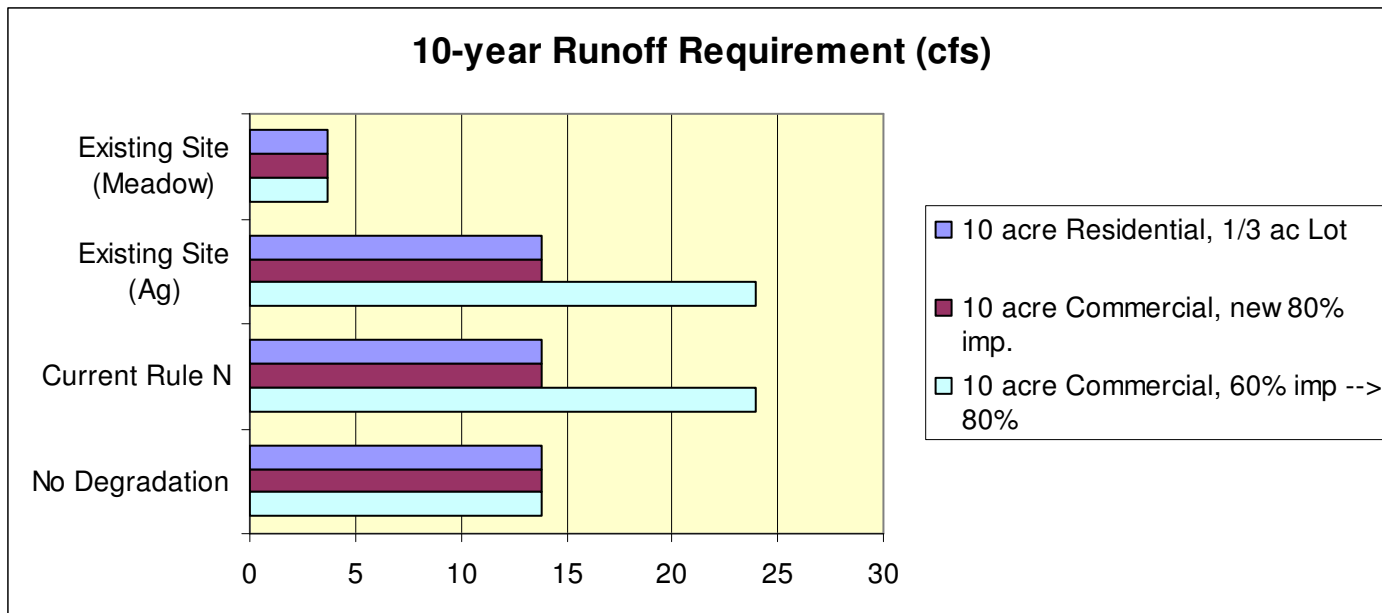
Notes

1. The 10 acre commercial site with 60% impervious assumes the rest of the site is grass for "Existing (ag)" conditions.
2. 1" and 1/2" Abstraction conditions consider complete infiltration from all runoff from impervious areas for the 1-inch and 1/2-inch rainfall depths, respectively.

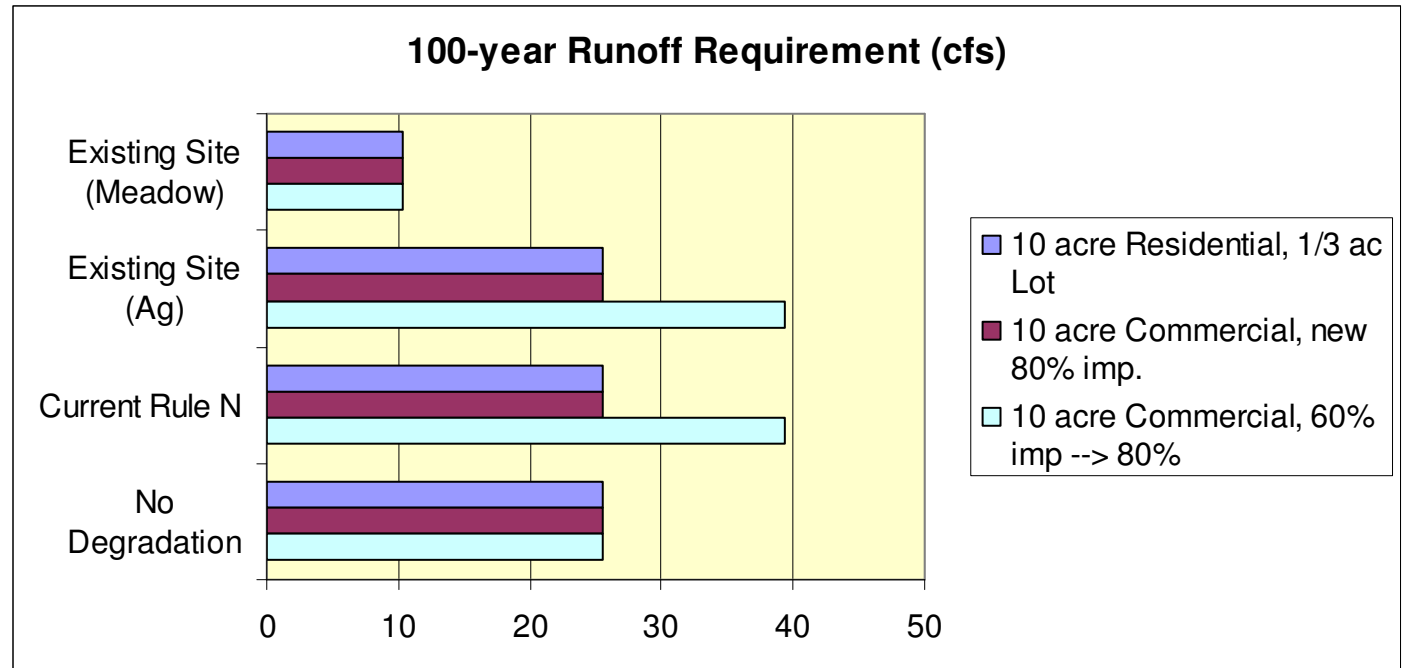
# [ Runoff Rate Control ]



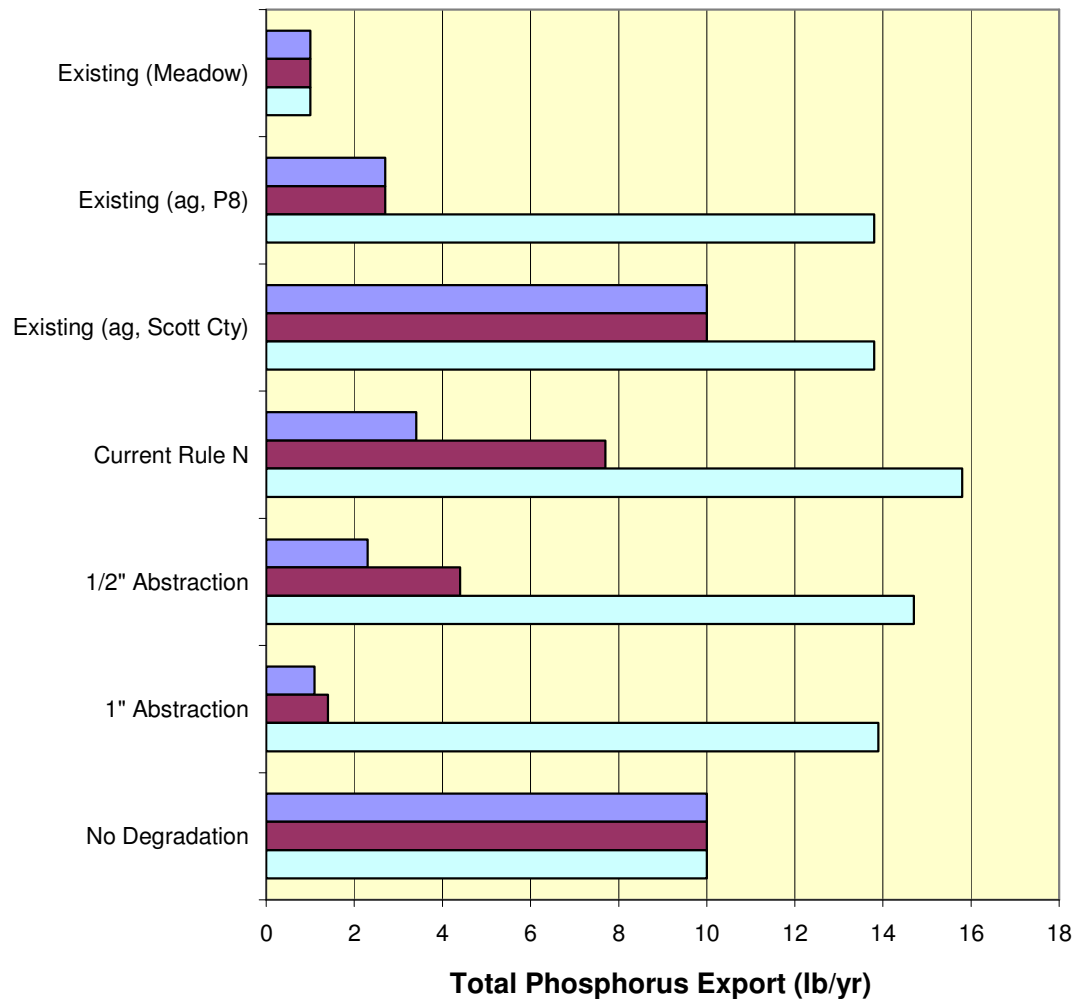
# [ Runoff Rate Control ]



# [ Runoff Rate Control ]



# Water Quality (Phosphorus)



- 10 acre Residential, 1/3 ac Lots
- 10 acre Commercial, new 80% imp.
- 10 acre Commercial, 60% imp --> 80%

## Notes

1. The P8 computer model was used to calculate all loading except the "Existing (ag, Scott Cty)" category. P8 was designed for use in urban areas. Therefore, literature values for agricultural runoff from Scott County was reported.

2. The 10 acre commercial site with 60% impervious assumes the rest of the site is grass for "Existing (ag)" conditions.

3. The "No Degradation" condition for the 10 acre commercial site with 60% impervious assumes the impervious is constructed after 1988. Agricultural use is considered present in 1988. The value reported is based on that reported by Scott County.

# Construction, Maintenance, and Replacement Costs

