

Q_{p10} & Q_{p100} Standards

VT Stormwater Manual Update

June 13th, 2014

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Current Standards – Q_{p10}

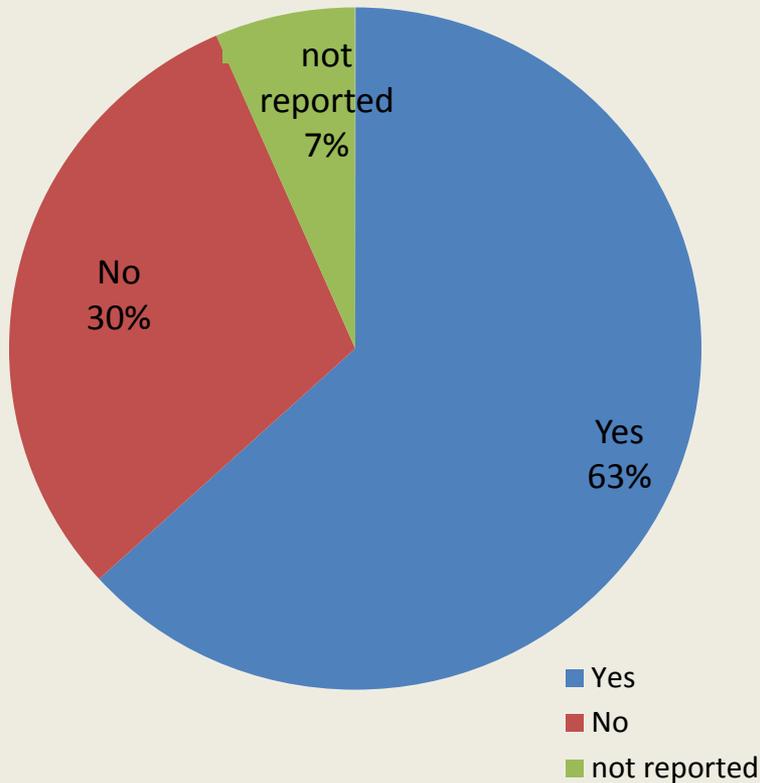
- Q_{p10} – Overbank Flood Protection Treatment Standard
 - Post-development peak discharge rate shall not exceed the pre-development peak discharge rate for the 10 year, 24 hour storm.
 - Exceptions
 - Direct drainage to waterbody with a drainage area >10 sq. mi.
 - Sites <5 acres where the channel has capacity to convey the post development Q_{p10} down stream to the point of the so-called 10% rule.

Current Standards – Q_{p100}

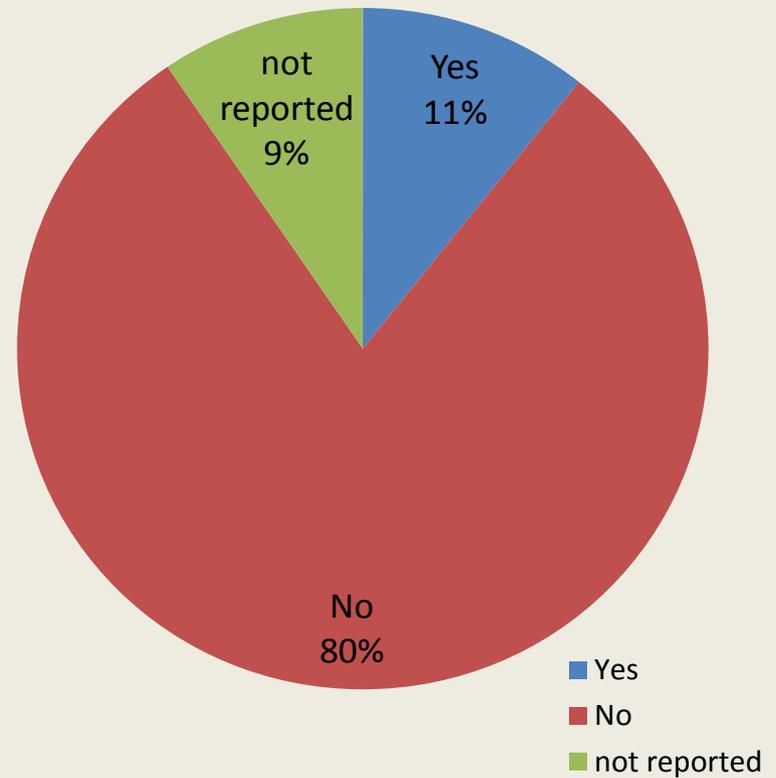
- Q_{p100} – Extreme Flood Protection Treatment Standard
 - Post-development peak discharge rate shall not exceed the pre-development peak discharge rate for the 100 year, 24 hour storm.
 - Exceptions
 - <10 acres of impervious
 - Direct drainage to waterbody with a drainage area >10 sq. mi.
 - Downstream analysis indicates Q_{p100} standard is not necessary.

How Often Do Q_{p10} and Q_{p100} Apply?

Q_{p10}



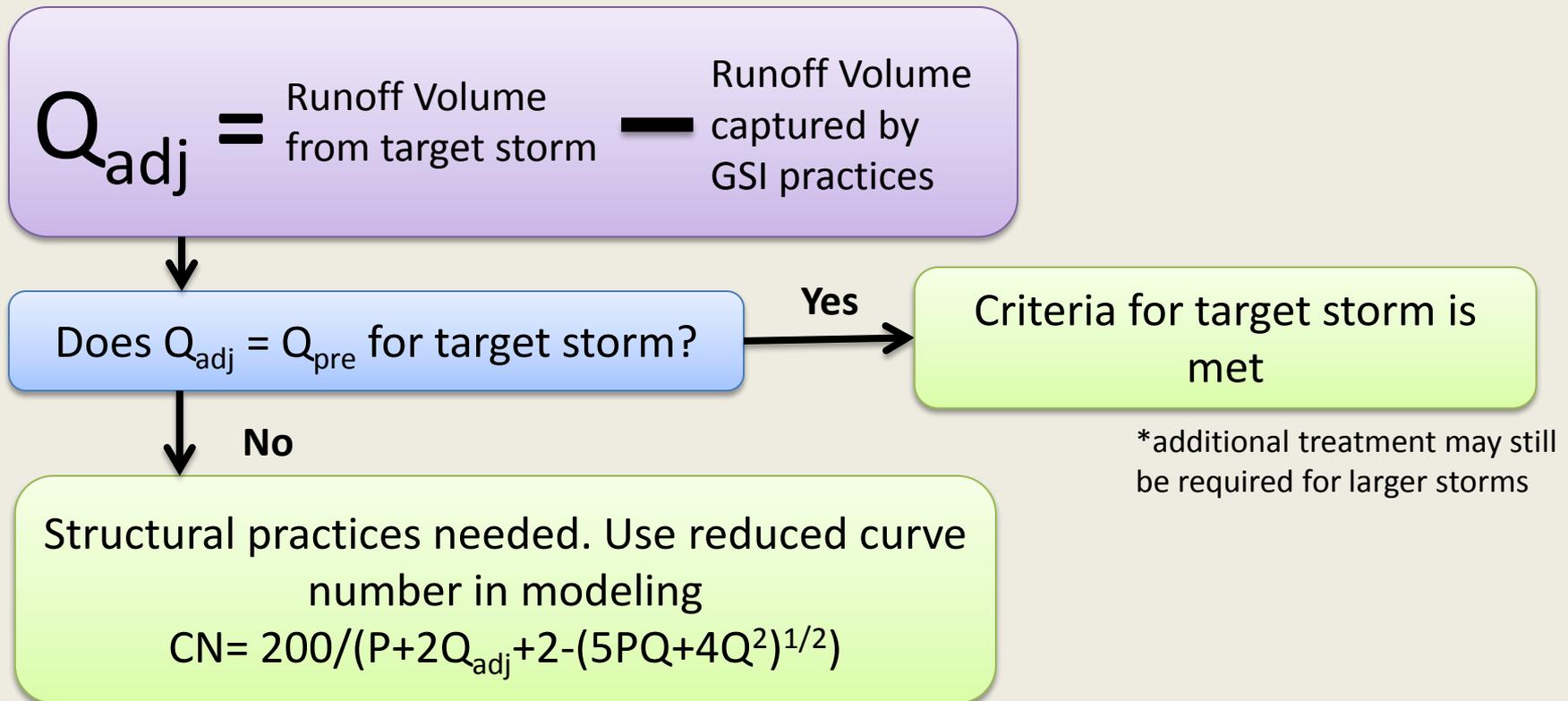
Q_{p100}



*based on 9015 and INDS permits issued from January 2010 – December 2013 (n=503)

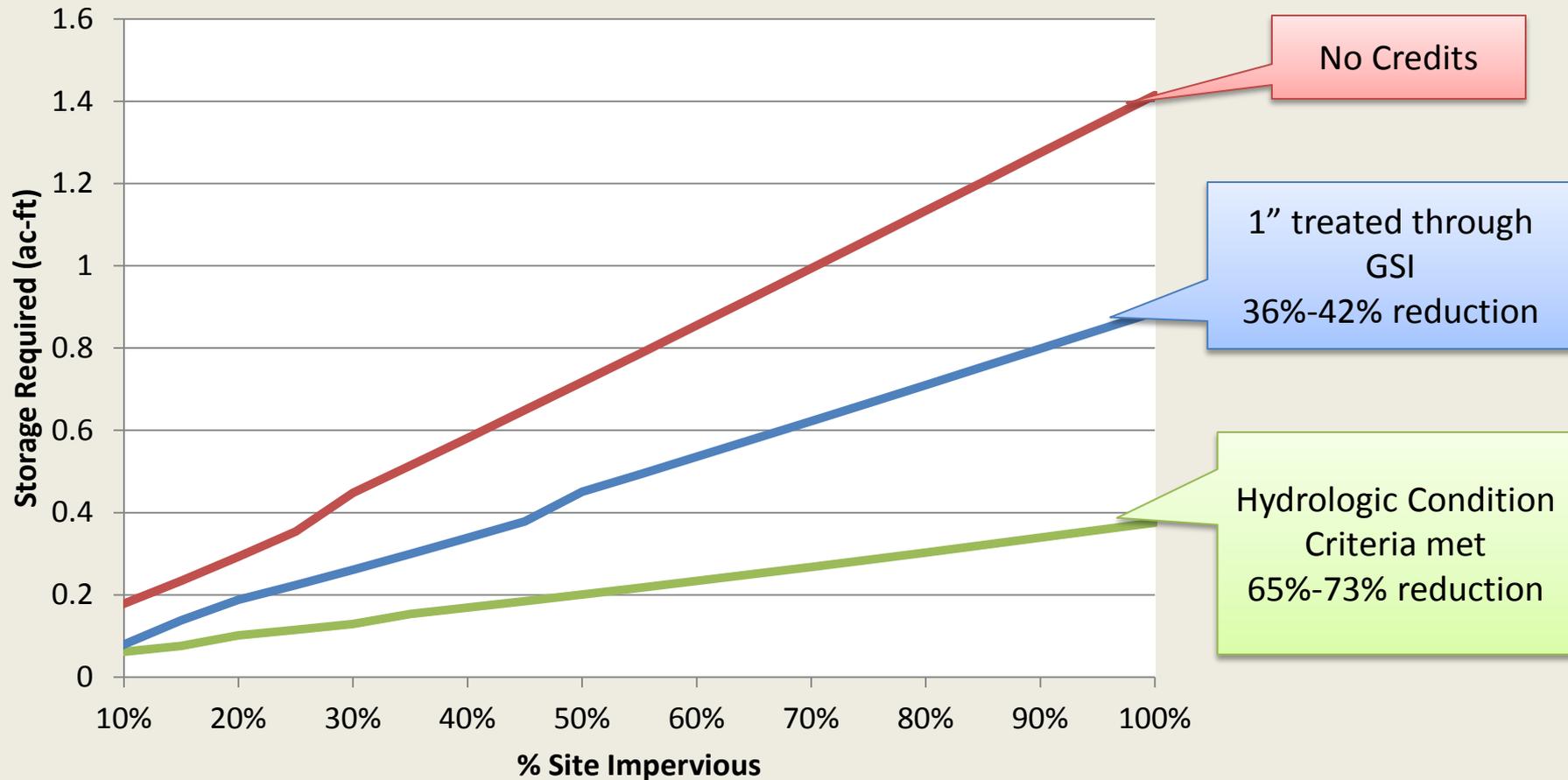
The Future of Q_{p10} & Q_{p100}

- No material change to Q_{p10} or Q_{p100}
- Credits for GSI practices will translate to smaller storage volumes



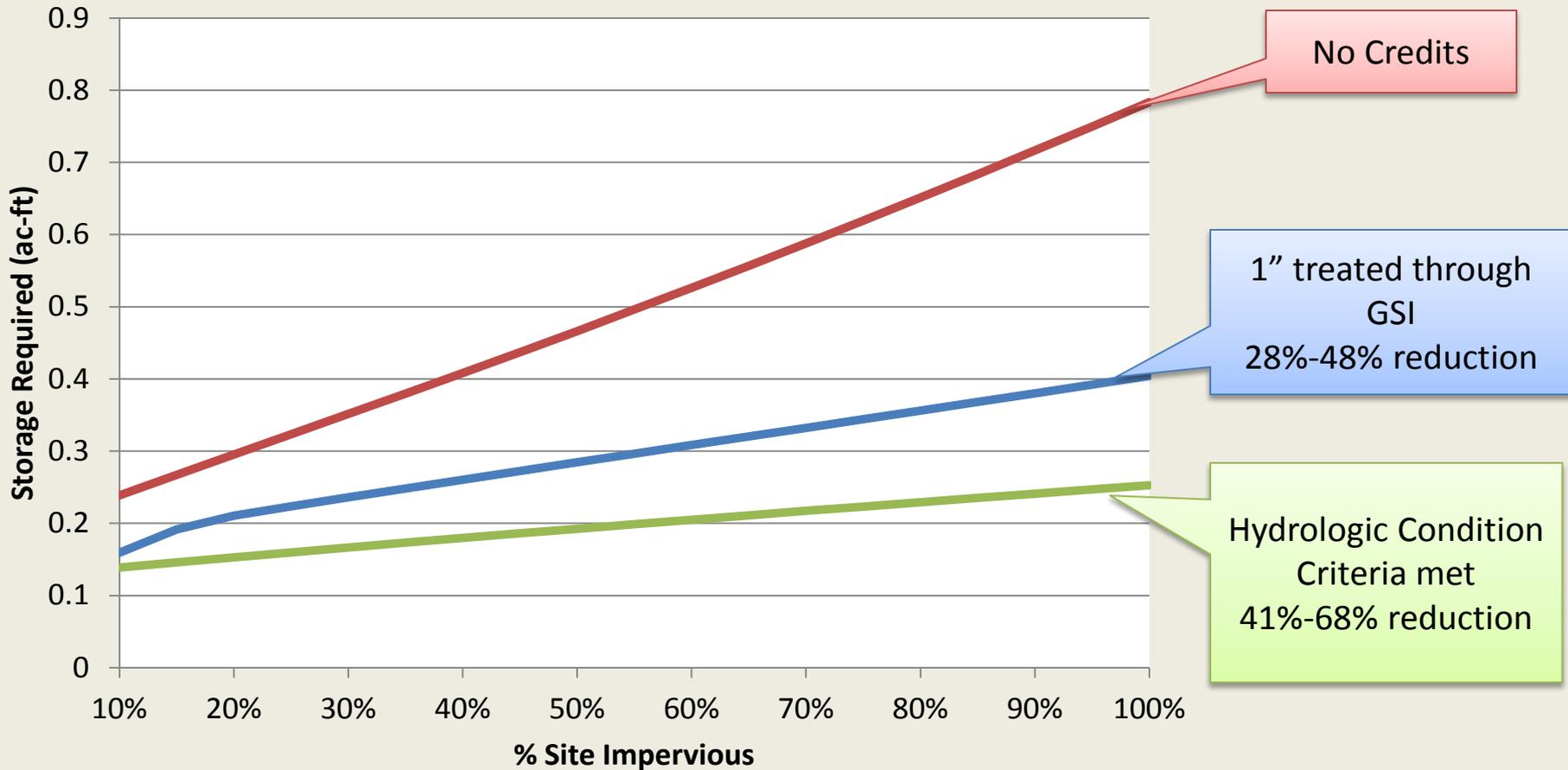
Effect of GSI Credits on Q_{p10}

10 acre site, B Soils – Storage Volume vs Site Impervious



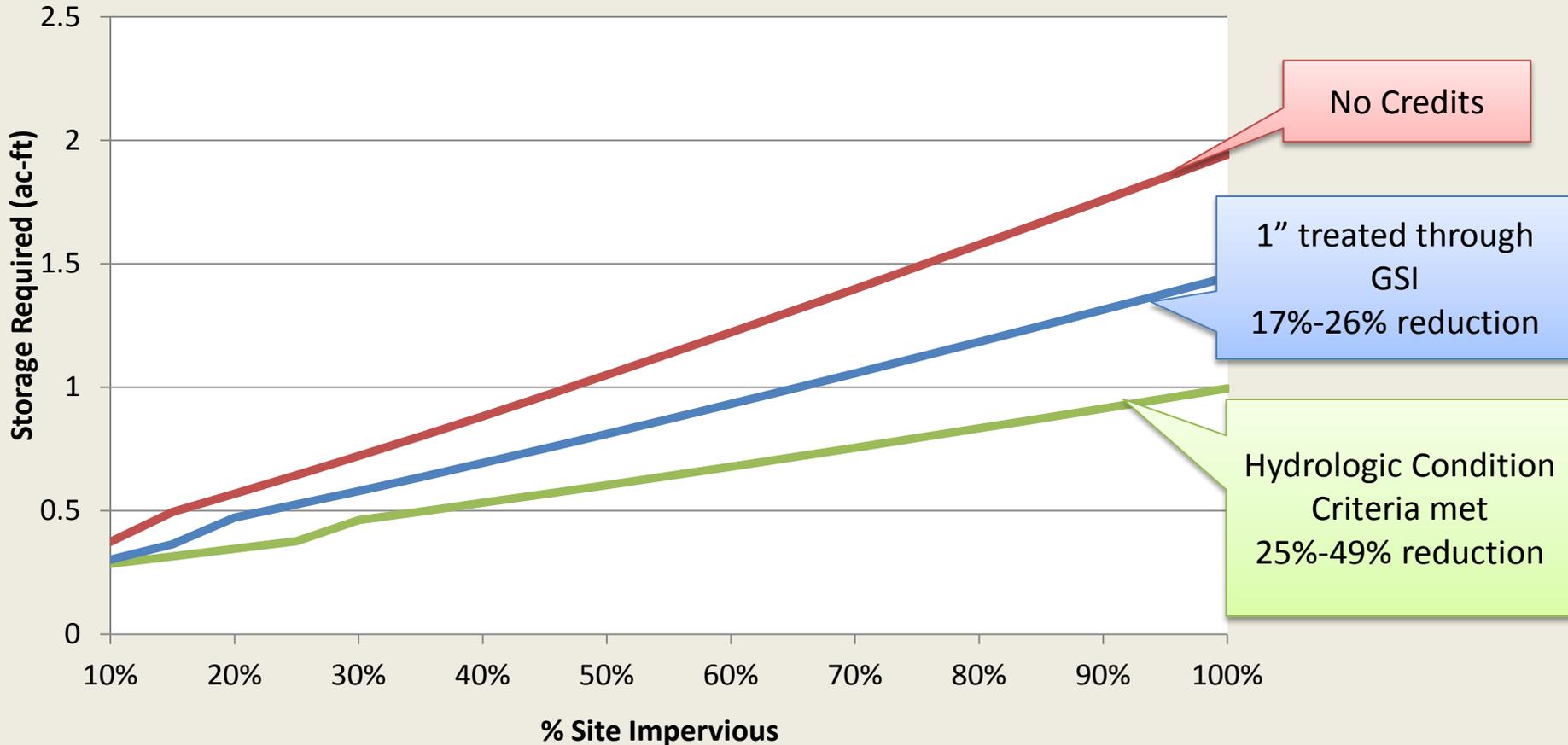
Effect of GSI Credits on Q_{p10}

10 acre site, D Soils – Storage Volume vs Site Impervious



Effect of GSI Credits on Q_{p100}

10 acre site, B Soils – Storage Volume vs Site Impervious



Effect of GSI Credits on Q_{p100}

10 acre site, D Soils – Storage Volume vs Site Impervious

