Factoring in Infiltration

- Forests = Large Infiltration
- Infiltrated Water can NOT reconcentrate
- Required Level Spreader Lengths in Wooded Situations would therefore DECREASE

Factoring in Infiltration

Proposed Method to Calculate Infiltration & Consequent Shortening of Level Spreaders

1. Devise Equivalent Rainfall to pass through Buffer post-Spreader
2. Assign CN to Wooded Buffer
3. Apply NRCS CN method to Equivalent Rainfall to Determine Infiltration
4. Reduce L.S. Length by % Reduction in Flow

Factoring in Infiltration

Example Calculation

1. Devise Equivalent Rainfall to pass through Buffer post-Spreader

- Assume 1 ac-in of Runoff Passes over L.S. (=3630 cf)
- 100’ L.S. Length & 50’ Buffer Width
- 5000 sqft of Buffer Area * 2/3 Available Land (due to Concentration) = 3333 sf

Factoring in Infiltration
Example Calculation

1. Devise Equivalent Rainfall to pass through Buffer post-Spreader

- 3630 cf / 3333 sf = 13.1 in Equivalent RF

2 Assign CN to Wooded Buffer

- CN = 55
- S = 8.2

Factoring in Infiltration
Example Calculation

3 Apply NRCS CN method to Equivalent Rainfall to Determine Infiltration

- P = 13.1 in
- S = 8.2
- R/O = 6.7 in

Factoring in Infiltration
Example Calculation

4 Reduce L.S. Length by % Reduction in Flow

- 6.7 in / 13.1 in = 49% of Flow WILL not be able to reconcentrate
- OR 51% of original flow did NOT infiltrate
- Required Level Spreader Length = 51% * 100 ft = 51 ft
- But that’s not the end of the story….

Factoring in Infiltration

Example CN = 55, per AC-IN of Runoff Forested (Mature Wood) Applications

Buffer Width	Required Level Spreader Length[1]
50 ft	65 ft
100 ft	50 ft
150 ft	40 ft

[1] – Rounded to nearest 5 ft