

## Solar Loading Rate Information

### **Background**

During the October 2024 Urban Stormwater Workgroup meeting, CSN presented the memo “Evaluating Options for Relative Land Use Loading Rates from Solar Development Sites”. Following discussion with workgroup members, CSN was asked to return with more information on the current definitions and relative land use loading rates for the following land uses: “Mixed Open”, “Turf Grass”, and “Suspended Succession”. Below is a summary of each land use, it’s relative loading rates, and a recommendation for how they might be applied to Solar Pervious acres.

### **Mixed Open:**

Includes the following:

- Scrub/shrub, herbaceous, abandoned lands with minimal disturbance
- Small patches of trees classed as active, abandoned or reclaimed mines, landfills, unconventional oil and gas, beaches, natural grasslands, utility right of ways
- Includes a percentage of herbaceous and barren land within the following land use types:
  - Industrial, transitional (early construction), warehousing, parks and federal facilities

Mixed Open is considered a “Natural” land use, and therefore the loading ratio is relative to a “Forest” land use condition. Relative loading rates are based on an analysis from Tetra Tech of data from the National Stormwater Quality Database of Open Space.

### *Phase 6 Loading Ratios and Avg Loading Rates*

**TN Loading Ratio: 1.46 (2.45 lbs/acre)**

**TP Loading Ratio: 5.69 (0.43 lb/acre)**

### *Loading Ratios Relative to MS4 Roads*

**TN Ratio Relative to Roads: 0.11**

**TP Ratio Relative to Roads: 0.52**

**Turf Grass:**

Herbaceous and barren lands that have been altered through compaction, removal of organic material, and/or fertilization. Includes the following:

- Road right of ways, residential, commercial, recreational, and other turf-dominated land uses (cemeteries, shopping centers, golf courses, airports, hospitals)

Turf is considered a “Developed” land use, and therefore the loading ratio is relative to a “Roads” land use condition. Loading rates are based on an analysis from Tetra Tech of data from the National Stormwater Quality Database of Turf and Residential land uses.

*Phase 6 Loading Ratios and Avg Loading Rates*

**TN Loading Ratio: 0.5 (11.19 lb/acre)**

**TP Loading Ratio: 1.04 (0.83 lb/acre)**

**Suspended Succession:**

A proposed land use only. No relative loading rate is available at this point in time.

- A sub-category of mixed open, that would pull out only:
  - Landfills
  - Abandoned mines
  - Road right of ways
  - Transmission lines

**Proposed Relative Land Use Loading Rates:**

Solar Impervious: The USWG recommends the use of the same relative loading rates as “Buildings and Other”.

Solar Pervious: The USWG recommends the use of the same relative loading rates as “Non-regulated turfgrass”.