



Natural Habitat and Features - Buffer Zone Performance Standards

Development Activities within the Buffer Zone

If development causes any disturbance with any of the buffer zones established by the Land Use Code, the applicant shall undertake mitigation or restoration activities at least equal to the value of the resource loss suffered by the community. Following industry best practices, the City requires performance standards of any approved mitigation and restoration plans and reports follow a comparative reference area.

These performance standards are included in a Development Agreement with the City. A security (bond or escrow) at 125% of the total amount of the proposed restoration plans is held by the City to ensure the performance standards outlined by the plan is achieved including the cost associated with materials, labor, and monitoring for a minimum of three years, weed mitigation and irrigation.

What is a Reference Area Ecosystem?

A reference area is a 'community of organisms able to act as a model or benchmark for restoration' (Society for Ecological Restoration). For revegetation projects within the City of Fort Collins (City), the overarching goal is to generate achievable and ecologically sustainable revegetation goals. Reference areas should be representative of the target vegetative conditions and management practices. The most common reference areas utilized in the City are defined by the Natural Areas Department as Mixed Grass (an upland community dominated native warm and cool season grasses) and Mesic Grass (a community dominated native warm and cool season grasses and forbs adapted to moist soil conditions).

Reference area sampling occurs at the peak of the growing season, (usually around late July or August) to allow warm season grasses and late blooming forbs to reach their peak growth. The success criteria, applicable to that year, can then be released by City staff to development applicants after data entry. Reference areas are sampled on an annual basis, making the success criteria unique and reflective of that year's climate.

Why is a Reference Area better?

The reference area approach is fundamentally based on local data, thus making it a *realistic* and *sustainable* standard, as well as reflective of what can be achieved after similar management with the local climatic and precipitation conditions. Thus, the sites selected as reference areas are analogous habitat types, are controlled by the City, and are restoration sites themselves (former mine sites, agricultural fields, or regional detention ponds). City staff sample the reference areas using a line point intercept method in a semi-random, representative manner that provides a statistically defensible 'adequate sample'. I.e., an estimate of the sample mean is obtained that confidently estimates actual (population) mean, as demonstrated by Cochran's formula for sample adequacy.