

# Business Turf to Native Grass Conversion Incentive Pilot Seeding Guidelines and Savings Estimates

## Conversion Overview and Potential Benefits

To encourage business customers to cultivate more attractive, healthy, resilient and efficient landscapes, Colorado Springs Utilities is offering an incentive for customers converting high water use turfgrass to native or alternative turfgrass according to these guidelines. Conversion of high water usage turfgrass areas to more resilient and lower maintenance treatments can provide significant water savings. This is also perhaps the easiest and most cost effective water and maintenance reduction option available to Colorado Springs Utilities customers. Such conversions can also provide an opportunity for older landscapes to better serve customers and allow them to more appropriately allocate limited resources to higher priority areas.

Conversion to a native or alternative turfgrass can yield water savings of up to 80 percent over conventionally irrigated Kentucky bluegrass. Achievement of these savings always depends on having a well trained staff that can monitor and adjust irrigation schedules and long term maintenance activities to maximize the goals of the conversion site.

## Native Grass Options, Savings Estimates and Incentive Amounts

Multiple conversion options are available and provide different savings and incentive amounts. In order to select the best conversion type for a site, potential uses should be identified and the specific site characteristics evaluated. Once these have been completed, it will be possible to select an appropriate conversion type from those described in this document. Each conversion option is listed and described below, with comments about suitable uses, relative drought tolerance, preferred soil type, vegetation characteristics, and maintenance requirements. The following native and alternative grasses can be useful to create mowed turfgrass areas or naturalized, un-mowed prairie.

	Potential Savings Range	Assumed Annual Savings (%)	Assumed Annual Savings (CF/SF)	Potable Incentive Amount per Area Converted (\$/Acre)	Soil Amendment Required
Warm Season Native Turf/Prairie	50-80%	60%	1.40	\$4,200*	No
Mid-Tallgrass Turf/Prairie	40-70%	50%	1.17	\$3,510*	No
Cool Season Native Turf/Prairie	25-50%	30%	0.70	\$2,100*	No
Fine Fescue Turf Mix	10-40%	20%	0.47	\$1,410*	Yes

\*Maximum total rebate amount per customer is \$15,000 per year.

## Irrigation Requirements

Due to the semiarid nature of our climate and the inconsistency of suitable establishment of grass seed without consistent moisture, all converted areas must be established and maintained with an automated in-ground irrigation system. Watering guidelines for establishment and maintenance are provided in this document.

Commonly used “grow low” seed mixes do not qualify for this program as they contain high water use turfgrass species and do not reduce water requirements.

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## Warm Season Native Turf/Prairie

These grasses are all warm season, meaning they green up around mid-May and start to go dormant in late-September. These species generally tolerate low to moderate foot traffic and can be left unmowed for a shortgrass prairie appearance, reaching a height of 12-18 inches. These can be used singly or together. **Other approved species can be included in a warm season native turf mix but cannot make up more than 20% of the total combined.**

Approved Warm Season Native Turf/Prairie Grass Species				
Common Name	Species	Elevation	Height	Soil
Buffalograss	<i>Buchloe dactyloides</i>	<6,500'	4-6"	Clay loam to clay
Blue grama grass	<i>Chondrosum gracile syn. Bouteloua gracilis</i>	<7,000'	6-18"	Sand to clay

Description: These are native grasses which develop a fine textured light green drought tolerant low growing turf. Buffalograss is about 4 to 6 inches tall and spreads by runners. Blue grama grass grows up to 6 to 8 inches tall with flowers up to 18 inches and is a bunch grass. These grasses are very well adapted and create a dense sod when combined. Heavy winter time use can lead to a worn appearance and may contribute to weed invasion. Examples of these grasses can be found at the Xeriscape Demonstration Garden at 2855 Mesa Road.

Conditions: Both species are adaptable to different soils, but buffalograss is best adapted to medium to heavy clay soils, while blue grama grass is more adaptable overall, including sandy soils. Both species grow best in full sun locations and should not be used in full shade locations. Soil does not have to be improved before seeding.

Seeding: For best results, these grasses must be seeded in summer between mid-May and early August.

Maintenance Watering: Once established, these will grow well with up to 75 percent less irrigation than conventionally maintained turf. Application of 2 inches or less per month is adequate to keep these tough, deep rooting grasses green all summer.

Mowing: Regular mowing is not necessary with these species and weekly mowing may even make them thinner. However, monthly mowing will make warm season native turf look more uniform. At a minimum, these species should be mowed once in March to remove the previous year's growth.

Fertilizer: Fertilize every few years and use a slow release product, such as Biosol® or equivalent. Fast-release chemical fertilizers should be avoided as they can thin or weaken the turf and lead to weed invasion.

Weed Control: Early spring weed control for broadleaf species or residual cool season grasses is essential. Careful application of broadleaf or broad spectrum herbicides may be safe during the late dormancy period in March, prior to warm season green up in May. Always follow herbicide label directions.

### Recommended for:

- Sunny tree lawns or parking strips (areas between sidewalk and curb)
- Low use turf areas with minimal irrigation
- Passive use irrigated turf areas
- Low lying passive use drainage areas, roadside ditches, or curb-less roadside areas
- Outlying/peripheral areas
- Bordering natural areas



# Business Turf to Native Grass Conversion Incentive Pilot Seeding Guidelines and Savings Estimates

## Mid-Tallgrass Turf/Prairie

These grasses are mostly warm season, meaning they green up around mid-May and start to go dormant in late-September. These species generally tolerate little foot traffic and can be left unmowed, reaching a height of 18-48 inches. These are best used in a mix which includes most or all of these. **Other approved species, such as Western wheatgrass, can be included in a mid-tallgrass turf/prairie mix but cannot make up more than 20% of the total combined.** Some native prairie mixes may fit these requirements.

Approved Mid-Tallgrass Prairie Grass Species				
Common Name	Species	Elevation	Height	Soil
Blue grama grass	<i>Chondrosium gracile</i> syn. <i>Bouteloua gracilis</i>	<7,000'	6-18"	Sand to clay
Sand dropseed	<i>Sporobolus cryptandrus</i>	<8,000'	6-18"	Sand
Little bluestem	<i>Schizachyrium scoparium</i>	<8,200'	18-36"	Sand to clay
Big bluestem	<i>Andropogon gerardii</i>	<8,500'	18-60"	Sand to clay
Switchgrass	<i>Panicum virgatum</i>	<8,000'	30-40"	Sand to clay
Sideoats grama	<i>Bouteloua curtipendula</i>	<7,000'	15-30"	Sand to clay
Green needlegrass	<i>Nasella viridula</i>	<9,000'	18-36"	Sand to clay

**Description:** These are native grasses which develop a light green drought tolerant moderately tall prairie or turf if mowed occasionally. These grasses are very well adapted and create a dense sod when combined.

**Conditions:** All species are somewhat adaptable to different soils. All species grow best in full sun locations and should not be used in full shade locations. Soil does not have to be improved before seeding.

**Seeding:** For best results, most of these grasses must be seeded in summer between mid May and early August.

**Watering:** Once established, these will grow well with up to 75 percent less irrigation than conventionally maintained turf. Application of 2 to 4 inches per month is adequate to keep these tough, deep rooting grasses green all summer. These will require more frequent watering if mowed more regularly.

**Mowing:** Regular mowing is not necessary or recommended with these species. These species are best mowed only once or twice per year and should only be used where a taller, natural look is desired. At a minimum, these species should be mowed once in the spring.

**Fertilizer:** Fertilize every few years and use a slow release product, such as Biosol® or equivalent. Chemical fertilizers should be avoided as they can thin or weaken the turf and lead to weed invasion.

**Weed Control:** Early spring weed control for broadleaf species or residual cool season grasses is essential. Careful use of broadleaf herbicides, such as Confront mixed with Quicksilver, can be very effective at controlling weeds. Always follow herbicide label directions.



**Recommended for:**

- Moderate slopes
- North and east-facing exposures
- Passive use park and campus areas
- Native streetscapes
- Open space areas
- Areas with low irrigation requirements

# Business Turf to Native Grass Conversion Incentive Pilot Seeding Guidelines and Savings Estimates

## Cool Season Native Turf/Prairie

These grasses are all cool season, meaning they green up around late March and start to go dormant in early November. These species generally tolerate moderate foot traffic and should NOT be left unmowed and only allowed to reach a height of 6 to 8 inches. These are best used in a mix which includes most or all of these. **Other approved species can be included in a cool season native turf/prairie mix but cannot make up more than 20% of the total combined.**

Approved Cool Season Native Turf/Prairie Grass Species				
Common Name	Species	Elevation	Height	Soil
Pubescent wheatgrass	<i>Thinopyrum intermedium</i> spp <i>barbulatum</i>	<9,000'	20-48"	Loam to Clay Loam
Western wheatgrass	<i>Pascopyrum smithii</i>	<9,000'	12-36"	Loam to Clay Loam
Streambank wheatgrass	<i>Elymus lanceolatus</i>	<10,000'	12-36"	Loam to Clay Loam
Slender wheatgrass	<i>Elymus trachycaulus</i>	<12,000'	24-30"	Loam to Clay Loam
Prairie Junegrass	<i>Koeleria cristata</i>	<12,000'	6-12"	Sand to clay loam

Description: These are native grasses which develop a coarse textured light to dark green, moderately drought tolerant turf if mowed once or twice per month. These grasses are reasonably well adapted, resemble Kentucky bluegrass at a distance and create a dense sod when combined.

Conditions: All species are somewhat adaptable to different soils, but may perform poorly in sandy areas. These grow best in full sun locations and should not be used in full shade locations. Soil does not have to be improved before seeding.

Seeding: These grasses may be seeded anytime during the growing season assuming adequate establishment watering is provided.

Watering: Once established, these will grow well with 25 to 50 percent less irrigation than conventionally maintained turf. Application of 3 to 6 inches per month is adequate to keep these grasses green all summer. These will require more water if mowed more than once per month.

Mowing: Regular mowing is required for these species though less often than Kentucky bluegrass. These species are best mowed weekly in the spring and once or twice per month thereafter. If less mowing is desired, warm season native turf and Mid-tallgrass turf/prairie are recommended. Mower blades must be sharp to avoid shredding the edges of the leaf blades. These grasses should not be allowed to go to seed.

Fertilizer: Irrigated wheatgrass turf areas can receive up to two fertilizer applications a year, but should receive about half the fertilizer used on Kentucky bluegrass.

Weed Control: Early spring weed control for broadleaf species is essential. Always follow herbicide label directions.

Recommended for:

- Tree lawns or parking strips (grass between sidewalk and curb)
- Areas with low irrigation requirements
- Passive use irrigated turf areas
- High visibility, low use areas



# Business Turf to Native Grass Conversion Incentive Pilot Seeding Guidelines and Savings Estimates

## Fine Fescue Turf Mix

These grasses are all cool season, meaning they green up around late March and start to go dormant in early November. These species generally tolerate moderate to high foot traffic and can be left unmowed for a meadow appearance, reaching a height of 6-15 inches. These are best planted in a mix. **Other pre-approved species of fine fescue can be included in a fine fescue turf mix.** Selected for heat, drought and shade tolerance.

Approved Fine Fescue Grass Species				
Common Name	Species	Elevation	Height	Soil
Hard fescue	<i>Festuca trachyphylla</i>	<12,000	6-24"	Sandy loam to clay loam
Sheep fescue	<i>Festuca ovina</i>	<13,000	4-12"	Sandy loam to clay loam
Blue fescue	<i>Festuca ovina</i>	<13,000	4-12"	Sandy loam to clay loam
Creeping red fescue	<i>Festuca rubra</i>	<12,000	6-24"	Sandy loam to clay loam

Description: These are native and introduced grasses which develop a fine textured blue to dark green, moderately drought tolerant turf either mowed or unmowed. These grasses are reasonably well adapted, resemble Kentucky bluegrass at a distance and create a dense sod when combined.

Conditions: All species are somewhat adaptable to different soils, but may perform poorly in clay or unimproved sand and are most drought tolerant where they can develop a deep root system. These grow best in and are only approved for part to full shade areas. Soil must be improved at a minimum rate of 3 cubic feet of organic matter per 1,000 square feet before seeding.

Seeding: These grasses may be seeded anytime during the growing season assuming adequate establishment watering is provided. Heavier seeding will result in a more dense turf.

Watering: Once established, these will grow well with 10 to 40 percent less irrigation than conventionally maintained turf. Application of 4 to 7 inches per month is adequate to keep these grasses green all summer. These will require more water if mowed regularly. Overwatering and underwatering may result in damage requiring overseeding to repair.

Mowing: Regular mowing is may not be necessary for these species. Depending on preferences, these may be short enough to be mowed only once or twice per year. Mowing every one or two weeks will create a more formal turf appearance, but will increase frequency of watering and shorten rooting depth. Mower blades must be sharp to avoid shredding the edges of the leaf blades.

Fertilizer: Fine fescue turf areas can receive up to two or three fertilizer applications a year, but should receive about half the fertilizer used on Kentucky bluegrass.

Weed Control: Early spring weed control for broadleaf species is essential. Always follow herbicide label directions.

Recommended for:

- Shady Casual play areas, picnicking and other low-use lawns
- Shady tree lawns or parking strips (between sidewalk and curb)
- Shady unmowed grasslands in naturalized areas



## Business Turf to Native Grass Conversion Incentive Pilot Seeding Guidelines and Savings Estimates

### Cool Season Native Turf/Prairie and Fine Fescue Turf Mix Establishment Watering

FREQUENCY	TARGETED SOIL MOISTURE DEPTH
3 times per day for 2 to 3 weeks (or until substantial establishment)	Maintain moisture at surface and in upper inch of soil; check moisture depth daily, do not saturate or puddle
Nightly for 2 weeks	Maintain moisture to 2 inches; check moisture depth twice weekly
Alternate nights for 2 weeks	Maintain moisture to 3 inches; check moisture depth twice weekly; surface soils can dry somewhat between waterings
3 nights per week	Moisture to 6 inches; check moisture depth weekly, surface soils can dry between waterings

### Warm Season Native Turf and Mid-Tallgrass Turf/Prairie Establishment Watering

FREQUENCY	TARGETED SOIL MOISTURE DEPTH
3 times per day for 3 to 4 weeks (or until substantial establishment)	Maintain moisture at surface and in upper inch of soil; check moisture depth daily, do not saturate or puddle
2 to 3 nights per week for 2 weeks	Maintain moisture to 2 inches; check moisture depth twice weekly
1 to 2 nights per week for 4 weeks	Maintain moisture to 3 inches; check moisture depth twice weekly
1 night per week for up to 6 weeks	Maintain moisture to 6 inches; check moisture depth twice weekly
Withhold irrigation when nighttime temperatures are consistently below 40 degrees	