



A Profile in Using Green Remediation Strategies

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Fort Carson
Colorado Springs, CO

Federal Facility

Cleanup Objectives: Contain a 15-acre hazardous waste landfill

Green Remediation Strategy: Installed a four-foot-thick monolithic evapotranspiration cover in semiarid climate

- Uses treated water from the wastewater plant for onsite irrigation where needed
- Uses biosolids from on-site wastewater treatment plant
- Prevented erosion through use of straw mulch
- Revegetated with native prairie grass resistant to drought and disease
- Provided uncompacted soil more conducive to plant growth than conventional earthen covers

Results:

- Reduced potential for desiccation
- Reclaimed sludge otherwise destined for landfill disposal
- Enhances visual aesthetics contrasting to adjacent asphalt cover
- Saved nearly \$1.5 million in construction costs compared to a conventional cover
- Incurs annual O&M costs averaging \$75,000
- Reclaimed the land for immediate re-use in commercial production of electricity from a 2-MW solar field, which is estimated to offset 1.3 million tons of greenhouse gases each year
- Enabled a long-term power purchase agreement, whereby the military base leases property to the utility and receives lower-cost electricity in return
- Reclaimed the land for immediate reuse in commercial production of electricity from a 2-MW solar field, which is estimated to offset 1.3 million tons of greenhouse gases each year

Property End Use: Open space

Point of Contact: [Vince Guthrie](#), Fort Carson Directorate of Public Works Utilities



Evapotranspiration modeling led to a design and construction strategy employing thin (1-foot) lifts to achieve soil texture uniformity and to optimize dry bulk density of the landfill cover.



Native plants such as western wheatgrass, galleta, and blue grama were installed on the surface of the 15-acre evapotranspiration cover.



More than 27,000 panels comprising flatplate, thin-film solar technology were installed on the cap surface and other areas over several months in 2007.



Visionary re-use planning enabled Fort Carson's remediated land to help build Colorado's renewable energy portfolio, which sets a standard of 10% by 2010.

Fort Carson

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**United States Environmental Protection Agency
Office of Solid Waste and Emergency Response (5202P)**

For more information:
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