

# GEOS: SUSTAINABILITY COMMUNITY

## Arvada, Colorado, U.S



Size: 23 acres, 282 residential units

Dates: 2009- ongoing

Team: Architect: Michael Tavel Architects, Landscape Architect: David Kahn Studio

Description: The Geos Neighborhood is a mixed use community revitalization project built on former industrial land.

Intent: Utilize sustainable neighborhood practices to create a people oriented community that enhances the environment and deters sprawl.

**S**  
Sit+Place

**GOALS:** (Food) ; (Habitat+Biodiversity) 8.5 acres of park and open space ; (Transport)

**STRATEGIES:** (Food) Edible landscaping, fruit trees, community gardens, central square designed to hold a farmers market, garden space available on residential property ; (Habitat+Biodiversity) Tree-lined streets, community greens and parks, wildlife habitat ; (Transport) Walkable communities, bike paths, pedestrian oriented development, 1.5 parking spaces per dwelling unit

**W**  
Water

**GOALS:** Promote storm water infiltration

**STRATEGIES:** Storm water management planned at all scales of the development, permeable pavers, storm water retention through bioswales and parks, surface water runoff, water conserving irrigation

**E**  
Energy

**GOALS:** Net-Zero energy, 100% renewable energy produced on site

**STRATEGIES:** Passive solar design, solar PV, district heating through ground source heat pumps, energy efficient design reducing energy demands by 20%, SIP construction to promote air-tight well insulated envelope, insulated slab, triple pane windows

**E**  
Equity

Percentage of affordable units:  
**GOALS:** Promote a walkable community

**STRATEGIES:** Public access to streets, mixed use neighborhoods, variety of housing including co-housing, single family and apartments, access to services, walkable design, walkable to amenities, indoor air quality monitoring and filtered ventilation

**M**  
Materials

**GOALS:** (Materials) Sustainable materials ; (Waste) Construction waste diversion

**STRATEGIES:** (Materials) Low emitting materials, renewable sources for floors, recycled ceramic tile ; (Waste) Trash and recycling services

## SUSTAINABILITY MATRIX

		STANDARD	GOOD	BETTER	LIVING COMMUNITY	REGENERATIVE
<b>S</b> Site+Place	Limits to growth			Built on greyfield of brown-field, developed for density, conserves habitat land		
	Urban Ag			Every resident to have access to community garden, greenhouse, local farm education		
	Habitat Exchange			Constructed wetlands, land set aside, native plantings, 25% + of developable space is undeveloped		
<b>W</b> Water	Human Powered Living	Car oriented development, planning may contain sidewalks but development was not designed around the pedestrian				
	Net Positive Water		Some stormwater reuse or infiltration, grey water recycling, conservation goals			
	Net Positive Energy			2030 standards of efficiency, advanced construction techniques, ongoing monitoring to meet goals, net +ve energy, carbon neutral goals, 100% renewable energy		
<b>E</b> Energy	Civilized Environment		Community has some groups to promote social connections			
	Healthy Neighborhood Design		Some access to walking trails that connect to amenities, parks, recreation areas			
	Biophilic Environment		Development includes park & has some landscaping			
	Resilient Community Connections	Nothing considered/ not reported				
<b>H</b> Health+ Happiness	Living Material Plan		Some material selection standards, passive house standards used			
	Embodied Carbon Footprint		Some proxy standards for reducing CO2 in material selection and construction			
	Net Positive Waste	Standard construction, material selection, & waste collection				
<b>M</b> Materials	Human Scale and Humane Places		Project contains some elements of human-scaled design			
	Universal Access to Nature and Place		Access to parks, promotes sense of place, some daylighting strategies for buildings			
	Universal Access to Community Services		Some services & community centers in development accessible by bike or walking			
<b>E</b> Equity	Equitable Investment	No contribution to charity				
	Beauty and Spirit Inspiration and Education		Some education on the developments attributes, some opportunities for community events			
<b>B</b> Beauty						

## SOURCES:

<http://discovergeos.com>  
<http://www.discovergeos.com/GEOS-DesignBook.pdf>  
<https://www.asla.org/sustainablelandscapes/geos.html>