

Oklahoma Source Water Protection Program

Green Infrastructure Engineered Assets



Updated November 2024

What Are Engineered Assets?

Engineered Assets are largely comprised of man-made structures designed to support natural processes. In more densely populated areas, implementing purely natural assets may prove to be difficult or nearly impossible due to the concentration of infrastructure. Engineered assets connect the needs of infrastructure and urban life with more natural processes and solutions.

Permeable Pavement

An intentionally porous urban surface which catches precipitation and surface runoff. The captured water is then stored in a reservoir where it slowly infiltrates into the soil below.



Rain Barrels

Storage containers that are connected to gutter systems to capture rainwater from roofs that would otherwise be lost to runoff and diverted to storm drains and streams.



Cisterns

Storage containers or tanks that store water from roofs, larger buildings, or parking lots. Located above or below ground.

Green Walls

Vertical structures that have various plants or other greenery attached to them.

Green Roofs

Contained green space on top of a human-made structure.



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Benefits of Engineered Assets

Although not natural, engineered assets can still contribute to varying ecosystem functions and may provide multiple benefits to the areas in which they are present.

| Function | Engineered Asset | Benefits |
|--|--|--|
| Soil Quality and Erosion Management | Permeable Pavement Rain Barrels Cisterns | <ul style="list-style-type: none">Protection of drinking water through groundwater rechargeRisk reduction to property from floodingErosion controlProperty value appreciation |
| Water Quality Management | Permeable Pavement Rain Barrels Cisterns | <ul style="list-style-type: none">Protection of drinking water through groundwater rechargeRisk reduction to property from floodingErosion controlProperty value appreciation |
| Air Quality Management | Green Roofs Green Walls | <ul style="list-style-type: none">Contribution to public health, such as reduction in asthma and providing carbon sinks for mitigation of greenhouse gases |
| Vegetation and Wildlife Management | Permeable Pavement Rain Barrels Green Roofs Green Walls Cisterns | <ul style="list-style-type: none">Contribution to local food systems such as pollination for food cropsContribution to public healthContribution to recreation and tourismProperty value appreciation |

Contact DEQ:

Reach out to the Capacity Development Section via email or phone and request to participate in the **FREE** program.

Email: DEQ.CapDev@deq.ok.gov

Phone: (405) 702-8141

You can also visit the DEQ website for more info, helpful resources, and to sign up for the program. <https://tinyurl.com/44hsyfut>



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Environmental
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