City of Lawton
STORMWATER
Issue 5, January-March 2024
MANAGEMENT FOR CONSTRUCTION AND INDUSTRIAL ACTIVITIES

Stabilization

The OKR10 requires permit holders to provide effective soil cover for inactive areas, all finished slopes, open space, backfill, and completed lots. "Inactive" is defined as areas of construction activity that have been disturbed and are not scheduled to be re-disturbed for at least 14 days.

So what is "effective soil cover"? It is the stabilization of the soil surface so that soil particles do not become detached by water or wind. When surfaces are stabilized, soil particles tend to not become detached, and thereby erosion is eliminated or greatly minimized.

"Temporary stabilization" refers to the stabilization of exposed portions of the site to provide temporary cover during the establishment and growth of vegetation, and/or in areas where earth-disturbing activities will occur again in the future.

"Final Stablization" refers to the stabilization of exposed portions of the site using practices that provide permanent cover and qualify the permittee for permit termination.

Temporary and permanent stabilization must be implemented in accordance with this part:

A. Stabilization Deadlines

1) **Initiate the installation of stabilization measures immediately in any disturbed areas on any portion of the site where construction activities have permanently ceased or will be temporarily inactive for 14 or more calendar days.**
2) **Complete the installation of stabilization measures as soon as practicable, but no later than 14 calendar days after stabilization measures have been initiated, or seven calendar days if you discharge from a high priority construction site.**
3) **If using vegetative stabilization, immediately after seeding or planting the area to be stabilized, you must install stabilization measures to provide effective cover to the area while vegetation is becoming established.**
4) **If using non-vegetative stabilization, you must install or apply all such measures to provide effective cover for such exposed portions of your site.**

B. Stabilization Criteria

1) **If using vegetative stabilization, temporary and final stabilization measures must provide uniform (i.e., evenly distributed without large bare areas14) cover that provides 70% or more of the cover that is provided by vegetation native to the site. When background vegetation covered less than 100% of the ground prior to commencing earth-disturbing activities, the 70% coverage criteria is adjusted as in following example: if vegetation covered 50% of the ground prior to construction, then the requirement would be to provide a total cover at final stabilization of 70% of 50% (0.70 X 0.50 = 0.35), or 35% of the site. If using vegetative stabilization, final stabilization occurs when vegetation has been established and rooted or anchored in place.**
2) **If using non-vegetative controls (e.g., hydro-mulch, erosion control blankets, riprap, geotextiles, and gabions) to stabilize exposed portions of your site, or if using such controls to temporarily protect areas that are being seeded and planted, you must provide equivalent non-vegetative stabilization measures to provide effective cover for such exposed portions of your site.**
3) **For final stabilization in residential construction, final stabilization occurs when either of the following criteria is met:**
   -The homebuilder has completed final stabilization as specified above; or
   -The homebuilder has established temporary stabilization for an individual lot prior to occupation
4) **Final stabilization in construction projects on land used for agricultural purposes (e.g., pipelines across crop or range land) may be accomplished by returning the disturbed land to its preconstruction agricultural use. This does not apply to disturbed areas that were not previously used for agricultural activities, such as buffer strips immediately adjacent to waters of the state and area that are not being returned to their pre-construction agricultural use.**

LID *focus*

Description

Permeable pavements are a stormwater control that allows stormwater to infiltrate through the surface of the pavement to the ground below; a green infrastructure alternative to traditional impervious surfaces. Types of permeable pavements include porous asphalt, pervious concrete and permeable interlocking concrete pavement (PICP).

As with traditional pavement or concrete, construction staff install permeable pavements on a crushed stone aggregate bedding layer and base, which can also temporarily detain stormwater that has passed through the permeable surface layer. With proper installation, permeable pavements can serve as durable, low-maintenance and low-cost alternatives to traditional impermeable pavements.

Applicability

Permeable pavements can help achieve multiple benefits since they provide surfaces to move vehicular and pedestrian traffic and reduce stormwater discharges. They are suitable for municipal stormwater management programs as well as private development applications. Private development projects can use them to meet post-construction stormwater quantity and quality requirements. Permeable pavements can be especially helpful in developed areas with little open space that cannot accomodate post-construction stormwater controls requiring dedicated surface areas. They can also reduce the need for additional expenditures and land use associated with conventional collection, conveyance and stormwater management infrastructure.

Stormwater Hot Spots

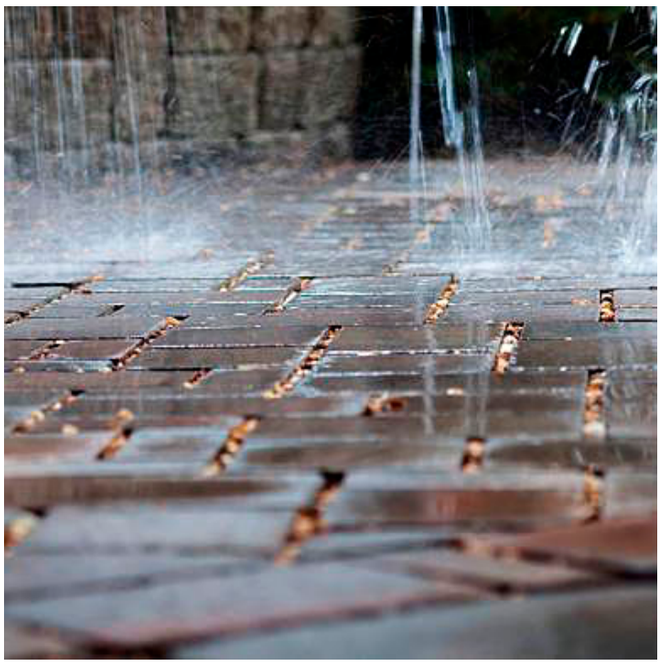
Stormwater hot spots are areas where certain land uses or related activities generate highly contaminated discharges with pollutant concentrations exceeding those typically found in stormwater. Typical examples include gas stations and industrial areas. Grassed swales should not receive stormwater from hot spots as they either infiltrate stormwater or intersect the groundwater table, so using them for treatment or conveyance of hot spot discharges could threaten groundwater quality.

Siting and Design Considerations

The purpose of permeable pavements is to intercept, evaporate, detain, filter and infiltrate stormwater on-site. Site developers can install permeable pavements across an entire street width, across an entire parking area or within a portion of a larger impervious area. Designers can also incorporate inlets to accommodate overflows from extreme storms. The area of a permeable pavement installation depends on the infiltration capacity of the particular type of pavement or paver system; it's depth or storage capacity; and the stormwater volume that the permeable pavement will need to capture, store or infiltrate.

Cost Consideration

Permeable pavement can be a cost-effective alternative to traditional pavement. Although it typically costs more than traditional pavement initially, savings in maintenance and stormwater management costs can make it more economical in the long term (U.S. EPA, 2013).



Maintenance

The most prevalent maintenance concern for permeable pavements is clogging, which can limit infiltration rates. Fine particles that may clog permeable pavements can come from vehicles, the atmosphere and stormwater discharge from adjacent land surfaces. Although clogging increases with age and use, it generally does not lead to complete impermeability. Long-term studies have found that permeable pavements have high initial infiltration rates that then decrease and eventually level off with time (Bean et al., 2007a). Compared to initial infiltration rates of hundreds of inches per hour, long-term infiltration rates decrease but usually remain well above 1 inch per hour, which may be sufficient in most circumstances to infiltrate stormwater from intense storm events (ICPI, 2000).

Effectiveness

Permeable pavements can be effective at reducing stormwater discharges and pollutant concentrations, though their effectiveness can be variable and depends more on the design of underlying layers and surrounding environmental conditions than surface type. The choice of surface type is relevant to user needs, cost, material availability, constructability and maintenance, but it has minimal impact on the overall stormwater retention, detention and treatment of pollutants by the system.

https://www.epa.gov/green-infrastructure

Give Stormy and the Area Creeks a Hand

Get involved by participating in a stream clean-up or storm drain marking event.

All groups such as civic clubs, schools, scouting organizations, etc., are welcome to participate in either or both events. Contact John Breit Stormwater Management (581-3478) for further details or to schedule an event.

STORMWATER CONTACT INFORMATION

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Visit the Stormwater Website

Information about stormwater regulations, program updates and upcoming projects can be found online at https://www.lawtonok.gov/departments/stormwater-management

City of Lawton Environmental Service's facebook page to receive conservation and pollution prevention tips.