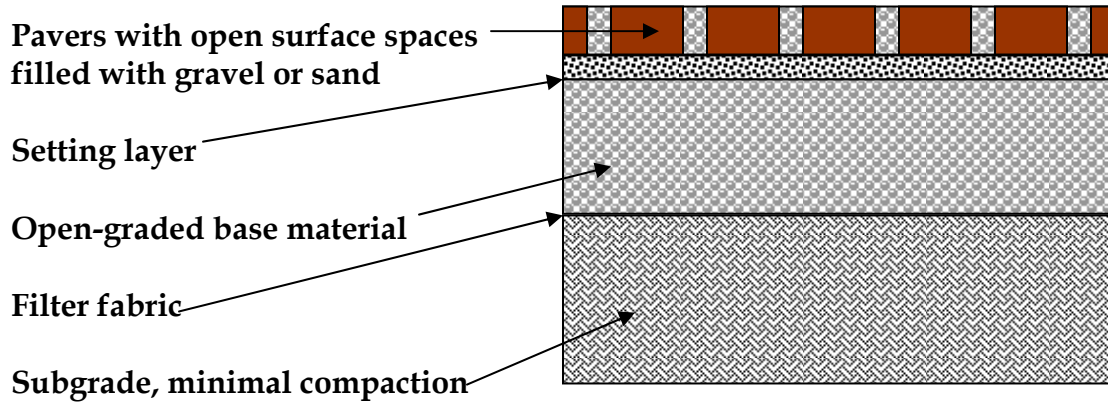
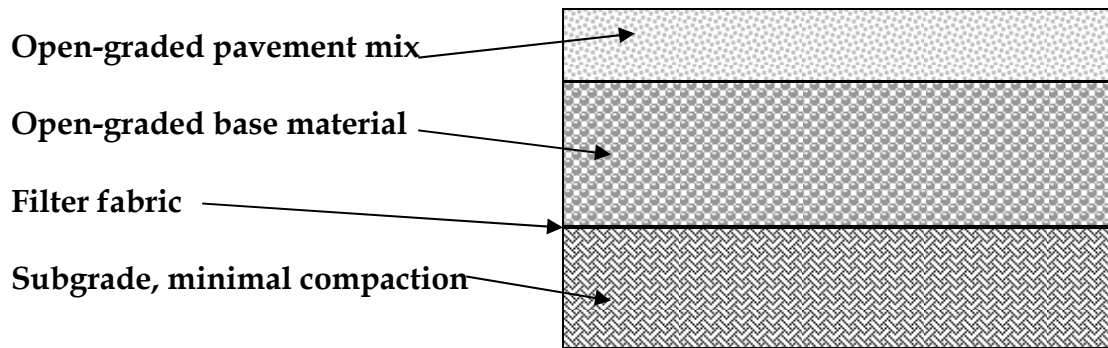


Pervious Pavement

Pervious Concrete Block or "Paver" Systems



Pervious (Open Graded) Concrete and Asphalt Mixes



<u>Stormwater Management Goals Achieved</u>	<u>Acceptable Sizing Methodologies</u>
√ Impervious Area Reduction.....	SIM
√ Pollution Reduction.....	SIM
√ Flow Control.....	SIM
√ Destination.....	PRES ¹
This facility is not classified as an Underground Injection Control structure (UIC).	
SIM=Simplified Approach, PRES= Presumptive Approach, PERF= Performance Approach	
This facility is an impervious area reduction technique. It is applicable for use in parking lots, driveways, and in some cases streets.	
Notes: 1) Pervious pavements are approved for destination in NRCS soil types A and B. For use in NRCS soil types C and D the applicant must design an overflow or underdrain or submit infiltration testing data and use the Presumptive Approach to size the base material for storage.	

Pervious Pavement



Description: There are many types of pervious pavement on the market today. Numerous products and design approaches are available, including special asphalt paving; manufactured products of concrete, plastic, and gravel; paving stones; and brick. It may be used for walkways, patios, plazas, driveways, parking lots, and some portions of streets, subject to compliance with building codes. To receive credit, the material must be installed and maintained to manufacturer's specifications. Pervious pavement accepts only precipitation, not stormwater runoff. These materials may not be allowed in certain areas (see **Chapter 4.0** for restrictions). A professional engineer, registered in the state of Oregon must design pervious pavement systems that will be supporting vehicular traffic.

Design Considerations: Pervious pavements are impervious area reduction techniques, facilities used to reduce the pollution runoff from the impervious surfaces of a development site. When designing pervious pavement systems, the infiltration rate of the native soil is a key element in determining the depth of base rock for the storage of stormwater, or for determining whether an underdrain system is appropriate for destination. Traffic loading, including emergency vehicle access, and design speed are important considerations in determining which type of pervious pavement is applicable. Pedestrian ADA accessibility, aesthetics, and maintainability are also important considerations, depending on pavement use.

Construction Considerations: Installation procedures can be detrimental to the success of pervious pavement projects, particularly pervious asphalt and concrete pavement mixes. The subgrade and base rock cannot be overly compacted with the inclusion of fine particulates or the void ratio critical to providing storage for large storm events will be lost. Weather conditions at the time of installation can affect the final product, as in the case of high or low temperatures with pervious asphalt and excessive rainfall with pervious concrete. Pavement infiltration rates should be verified by the owner prior to final acceptance.

Design Requirements:

Soil Suitability: Pervious pavement systems are appropriate for all soil types, but will require an overflow or underdrain system to an approved stormwater destination (per **Section 1.4**) for poorly-infiltrating NRCS soil types C and D. There shall be no less than three feet of undisturbed infiltration medium between the bottom of the base rock and any impervious layer (i.e. hardpan, solid rock, high groundwater levels, etc.), unless an underdrain system is used.

Pervious Pavement

Dimensions and Slopes: Minimum/maximum dimensions and other specifications are product-specific and shall comply with manufacturer's recommendations. Slopes shall be less than 10% in all cases.

Setbacks: Not applicable.

Sizing: Pervious pavements are impervious area reduction techniques and are not considered to be impervious surfaces themselves. The use of a pervious pavement system mitigates any pollution reduction or flow control requirements which would be applied to that surface were it impervious. Pervious pavements which are constructed on NRCS soil types A and B may be designed to meet destination requirements. Pervious pavements which are located in C and D soils are permitted for pollution reduction and flow control but a high-flow overflow or underdrain system must be designed using the Presumptive Approach to meet destination requirements.

Limitations: Pervious pavements shall not be used on sites with a likelihood of high oil and grease concentrations. These site uses include vehicle wrecking or impound yards, fast food establishments, automotive repair and sales, and parking lots that receive a high number of average daily trips (> 1,000).

Checklist of minimal information to be shown on the permit drawings:

- 1) Manufacturer's design and specifications or engineered calculations
- 2) Facility dimensions, grades, grade breaks, and setbacks from property lines and structures
- 3) Profile view of facility, including typical cross-sections with dimensions
- 4) Pervious pavement materials and installation procedure specifications
- 5) Subgrade and base course specifications
- 6) Filter fabric specification (if applicable)
- 7) All stormwater piping associated with the facility, including pipe materials, sizes, slopes, and invert elevations at every bend or connection

Inspection requirements and schedule: The following table shall be used to determine which stormwater facility components require City inspection, and when the inspection shall be requested. Please note that, while not all facility components may require an inspection call, inspectors will inspect for all required components in the field.

Facility Component	Inspection Requirement
Subgrade	
Filter fabric (if applicable)	
Underdrain piping (if applicable)	Call for inspection
Base rock	
Pervious pavement installation	Call for inspection

Operations and Maintenance requirements: See Chapter 3.0.

Pervious Pavement

{this page left blank intentionally}