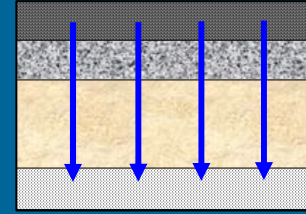
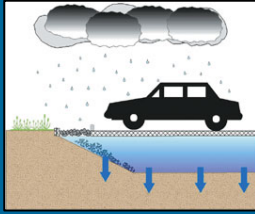


Porous Asphalt Pavement for Stormwater Management

The UNH Stormwater Center

Web: www.unh.edu/erg/cstev/



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| <p>Benefits and Uses</p> | <p>Porous Asphalt can be used in replace of traditional stormwater management measures given the proper conditions. Porous Asphalt's primary advantages are:</p> <ol style="list-style-type: none"> 1. Quantity and Flood Control 2. Water Quality Treatment 3. Recharges Groundwater to Underlying Aquifers 4. Allows for Reduction of Stormwater Infrastructure (Piping, Catch-Basins, Retention Ponds, Curbing, etc.) 5. Suitable for Cold-Climate Applications, Maintains Recharge Capacity When Frozen 6. Allows for Reduced Salt and Sand Usage Due to Low/No Black Ice Development 7. Maintains Traction While Wet 8. Reduced Spray from Traveling Vehicles, Reduced Roadway Noise 9. Extended Pavement Life Due to Well Drained Base and Reduced Freeze-Thaw |
| <p>Disadvantages</p> | <ul style="list-style-type: none"> • Requires Routine (Quarterly) Vacuum Sweeping (Vac-Assisted Dry Sweeper Only) • Proper Construction Stabilization and Erosion Control are Required to Prevent Clogging • Quality Control for Material Production and Installation are Essential for Success • Accidental Seal-Coating or Similar Surface Treatment Will Cause Failure |
| <p>Cost & Maintenance</p> | <ul style="list-style-type: none"> • Total Project Cost is Comparable for Porous Asphalt with Reduced Stormwater Infrastructure VS. Standard Pavement Applications where Stormwater Infrastructure is Required • Materials Cost is ~20-25% More Than Traditional Asphalt • Long-term Maintenance is Required by Routine Quarterly Vacuum Sweeping • Sweeping Cost May Be Off-set by Reduced Deicing Costs • Repairs Can be Made with Standard Asphalt Not to Exceed 10% of Surface Area |
| <p>Design Criteria</p> | <ul style="list-style-type: none"> • Soil Permeability is Recommended Between 0.25-3.0 Inches Per Hour • Recommended Drainage Time of 24-48 Hours • Sub-Drains Should be Used Where Proper Drainage May be an Issue to Minimize Frost Damage • Most Appropriate for use with Low-Use Roadways and Parking Lots – Without a Modified Asphalt Binder • 3-5 Feet of Vertical Separation is Needed from Seasonal High Groundwater <p>TYPICAL POROUS ASPHALT CROSS-SECTION</p> |
| <p>Additional Resources</p> | <ul style="list-style-type: none"> • The UNH Stormwater Center, Porous Asphalt Specs - General Porous Bituminous Paving and Groundwater Infiltration Beds, http://www.unh.edu/erg/cstev/ • Federal Highway Administration (2006) Porous Pavement Fact Sheet http://www.fhwa.dot.gov/environment/ultraurb/3fs15.htm • Ferguson, B. (2005), Porous Pavements, CRC Press. • Porous Asphalt Pavements (2004) Information Series 131. The National Asphalt Pavement Association, Lanham, MD. |