PREFACE

Knowledge of the characteristics of highway runoff (concentrations and loads of constituents and the physical and chemical processes which produce this runoff) and the performance of best management practices are important for decision makers, planners, and highway engineers to assess and mitigate possible adverse impacts of highway runoff on the Nation’s receiving waters. In November 1998, the Federal Highway Administration, the Massachusetts Highway Department, and the U.S. Geological Survey began an investigation to determine the effectiveness of three best management practices in reducing suspended-solid loads and related constituents along the Southeast Expressway (Interstate Route 93) in Boston, Massachusetts.

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CONVERSION FACTORS, WATER-QUALITY UNITS, AND ABBREVIATIONS

CONVERSION FACTORS

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<thead>
<tr>
<th>Multiply</th>
<th>By</th>
<th>To obtain</th>
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<tbody>
<tr>
<td>cubic feet per second (ft³/s)</td>
<td>0.02832</td>
<td>cubic meters per second</td>
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<tr>
<td>foot (ft)</td>
<td>0.3048</td>
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<td>foot per hour (ft/h)</td>
<td>0.3048</td>
<td>meter per hour</td>
</tr>
<tr>
<td>gallon (gal)</td>
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<tr>
<td>inch (in.)</td>
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<tr>
<td>mile (mi)</td>
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<tr>
<td>square feet (ft²)</td>
<td>0.0929</td>
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<tr>
<td>ton</td>
<td>907.2</td>
<td>kilogram (kg)</td>
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Temperature in degrees Celsius (°C) can be converted to degrees Fahrenheit (°F) as follows: °F=1.8°C+32

WATER-QUALITY UNITS

Abbreviated water-quality units used in this report: Chemical concentrations, water temperature, and specific conductance are given in metric units. Chemical concentration of constituents in solution or suspension is given in milligrams per liter (mg/L) or micrograms per liter (µg/L). Milligrams per liter is a unit expressing the concentration of chemical constituents in solution as weight (milligrams) of solute per unit of volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter. Concentrations of sediment-quality constituents are expressed in parts per million (ppm) by weight. Bacteria densities are expressed as number of colonies per 100 milliliters of water (col/100 ml).

ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
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<tbody>
<tr>
<td>BMP</td>
<td>Best management practice</td>
</tr>
<tr>
<td>EMC</td>
<td>Event mean concentration</td>
</tr>
<tr>
<td>SSC</td>
<td>Suspended-sediment concentration</td>
</tr>
<tr>
<td>PZF</td>
<td>Point of zero flow</td>
</tr>
<tr>
<td>RPD</td>
<td>Relative percent difference</td>
</tr>
<tr>
<td>MRL</td>
<td>Minimum reporting level</td>
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<tr>
<td>NTU</td>
<td>Nephelometric turbidity units</td>
</tr>
<tr>
<td>µS/cm</td>
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