

### Rational Method Runoff Coefficients

| Type of Development  | Runoff Coefficients                          |  |
|--|--|--|
| Business<br>Downtown<br>Neighborhood   | 0.70 to 0.95<br>0.50 to 0.70                 |  |
| Residential<br>Single family<br>Multi-units (detached)<br>Multi-units (attached) | 0.30 to 0.50<br>0.40 to 0.60<br>0.60 to 0.75 |  |
| Residential (suburban)   | 0.25 to 0.40                                 |  |
| Apartment  | 0.50 to 0.70                                 |  |
| Industrial<br>Light<br>Heavy   | 0.50 to 0.80<br>0.60 to 0.90                 |  |
| Park, Cemeteries   | 0.10 to 0.25                                 |  |
| Playgrounds  | 0.20 to 0.35                                 |  |
| Railroad Yard  | 0.20 to 0.35                                 |  |
| Unimproved   | 0.10 to 0.30                                 |  |
| <b>Character of Surface</b>  |  |  |
| Pavement<br>Asphalt and Concrete<br>Brick  | 0.70 to 0.95<br>0.70 to 0.85                 |  |
| Roofs  | 0.75 to 0.95                                 |  |
| Lawns, Sandy Soil<br>Flat<br>Average<br>Steep                                    | 2%<br>2% to 7%<br>7%                         | 0.05 to 0.10<br>0.10 to 0.15<br>0.15 to 0.20 |
| Lawns, Heavy Soil<br>Flat<br>Average<br>Steep                                    | 2%<br>2% to 7%<br>7%                         | 0.13 to 0.17<br>0.18 to 0.22<br>0.25 to 0.35 |

Source: Design and Construction of Sanitary and Storm Sewers, American Society of Civil Engineers and the Water Pollution Control Federation, 1969.