Computing Runoff Coefficients

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Total Site Area | = |  |  | (A) |

Existing Site Conditions

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Impervious Site Area1 | | = |  |  | (B) |
|  | |  |  |  |  |
| Impervious Site Area Runoff Coefficient 2, 4 | | = |  |  | (C) |
|  | |  |  |  |  |
| Pervious Site Area3 | | = |  |  | (D) |
|  | |  |  |  |  |
| Pervious Site Area Runoff Coefficient4 | | = |  |  | (E) |
|  | |  |  |  |  |
| Existing Site Area Runoff Coefficient |  | = |  |  | (F) |

## Proposed Site Conditions (after construction)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Impervious Site Area1 | | = |  |  | (G) |
|  | |  |  |  |  |
| Impervious Site Area Runoff Coefficient 2, 4 | | = |  |  | (H) |
|  | |  |  |  |  |
| Pervious Site Area3 | | = |  |  | (I) |
|  | |  |  |  |  |
| Pervious Site Area Runoff Coefficient4 | | = |  |  | (J) |
|  | |  |  |  |  |
| Proposed Site Area Runoff Coefficient |  | = |  |  | (K) |

1. Paved areas.
2. Use 0.9 for paved roads and 0.7 for gravel roads.
3. Includes areas of vegetation, most unpaved or uncovered soil surfaces, and other pervious areas.
4. Use the table from the State’s stormwater manual.

INSTRUCTIONS

* The runoff coefficient (“C” value) is used to estimate the impact on stormwater runoff due to development of a site. The C value is the amount of rainfall that becomes runoff. The less runoff that is absorbed into the ground, the higher the C value. This information may be provided by Caltrans.
* Refer to the Caltrans Highway Design Manual, Topic 819 – Estimating Design Discharge, for a more detailed explanation on calculating weighted runoff coefficients for areas containing varying amounts of different cover.
* Refer to Figure 819.2A, “Runoff Coefficients for Undeveloped Areas”, and Table 819.2B, “Runoff Coefficients for Developed Areas” provided with this Attachment.

EXAMPLE

Total Site Area = 171,965 m2 (A)

Existing Site Conditions

Impervious Area1 = 88,157 m2 (B)

Impervious Area Runoff Coefficient 2, 4 = 0.95 (C)

88157 x 0.95 = 83,749 m2  (B x C)

Pervious Area3 = 83,808 m2 (D)

Pervious Area Runoff Coefficient4 = 0.4 (E)

83808 x 0.4 = 33,523 m2 (D x E)

Sum: 83749 + 33523 = 117,272 (B x C) + (D x E)

Divide: 140738/171965 = 0.68 

Existing Area Runoff Coefficient = 0.68 (F)

## Proposed Site Conditions

Impervious Area1  = 100,036 m2 (G)

Impervious Area Runoff Coefficient2, 4 = 0.95 (H)

100036 x 0.95 = 95,034 m2  (G x H)

Pervious Area3 = 71,929 m2 (I)

Pervious Area Runoff Coefficient4 = 0.4 (J)

71929 x 0.4 = 28,771 m2  (I x J)

Sum: 95034 + 28771 = 123,805 (G x H) + (I x J)

Divide: 123805/171965 = 0.72 

Existing Area Runoff Coefficient = 0.72 (F)