Post-Construction Requirements

Two parts to post-construction requirements of the Construction General Stormwater Permit

1- Site Stabilization

2- Post-Construction Best Management Practices (BMPs)
What is the “concern”?

Increase in stormwater runoff due to increase in impervious surface as a result of land development

How to “address” the concern?

How to “regulate” it?
Water Cycle A

Water Cycle B
Water Cycle C
How to “address” the concern?

By implementing Low Impact Development (LID) designs, also known as Green Infrastructure, as part of the project’s post-construction Best Management Practices.

Low Impact Development: Definition

LID is an approach to land development (or re-development) that works with nature to manage stormwater as close to its source as possible. LID employs principles such as preserving and recreating natural landscape features, minimizing effective imperviousness to create functional and appealing site drainage that treat stormwater as a resource rather than a waste product.
Low Impact Development: Components

- Infiltration (unless shallow groundwater or dense industrial zone)
- Evapo-transpiration
- Retention and Re-use

Examples of LIDs as Post Construction BMPs

- Cisterns / Rain Barrels
- Dry Wells
- Green Roofs
- Infiltration Galleries
- Planter Boxes
- Porous Pavement
- Vegetated Swales
- And more…

think GREEN
LID: For what volume of stormwater runoff?

Volume of pre-construction stormwater runoff produced by:

• the 85th percentile 24-hour rainfall
  or
• the 0.75-inch 24-hour rainfall

**whichever is greater**

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**LID: Basic Equations**

**Curve Number (CN) method**

\[
Q(P, I_a, S) = \frac{(P - I_a)^2}{P - I_a + S} \quad \text{equation 1}
\]

- **Q** = Runoff Volume
- **P** = Rainfall
- **I_a** = Initial abstraction, or the amount of water before runoff
- **S** = Potential maximum soil moisture retention after runoff begins

\[
I_a = 0.2S \quad \text{equation 2}
\]

\[
S = \frac{1000}{CN} - 10 \quad \text{equation 3}
\]

\[
Q(P, CN) = \frac{(P - \frac{200}{CN})^2}{P - \frac{1200}{CN} + 12} \quad \text{equation 4}
\]
Regulation of LID Implementation

By requiring a description of LIDs being implemented and a water balance calculation

Post-Construction Runoff ≤ Pre-Construction Runoff

Submitted via:

Water Board’s Stormwater Multiple Application and Report Tracking System (SMARTS)

or

LID Plans and Calculations

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Regulation of LID Implementation

Who must comply with Post-Construction requirements of the Construction General Stormwater Permit?

EVERYONE

enrolled in the Construction General Stormwater Permit
Compliance Demonstration via SMARTS
### Volume Check Calculator Worksheet

<table>
<thead>
<tr>
<th>Formula</th>
<th>Notes</th>
</tr>
</thead>
</table>
| A. Postal Treatment | G. Recreational Club Area
| B. Trench Packing | H. Erosion Buffer
| C. Erosion Buffer | I. Natural Drainage
| D. Recreational Club Area | J. Wetland Buffer
| E. Floodplain | K. Erosion Buffer
| F. Stream Buffer | L. Natural Drainage

### Erosion Buffer Calculation Worksheet

<table>
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<tr>
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### Considerations

- For all projects, we should consider all possible impacts to the environment. This includes the volume of water that will be diverted to the project area.
- The project must comply with all relevant regulations and standards.
- The design should minimize impacts to the surrounding area.
- The project should be designed to reduce the risk of flooding and erosion.
- The project should be designed to minimize the risk of soil erosion and sedimentation.

### Conclusion

- The project should be designed to meet all relevant regulations and standards.
- The project should be designed to minimize impacts to the surrounding area.
- The project should be designed to reduce the risk of flooding and erosion.
- The project should be designed to minimize the risk of soil erosion and sedimentation.

### End of Document
Resources and References:


- California Stormwater Quality Association (CASQA) at: https://www.casqa.org/resources/bmp-handbooks

- USEPA’s website at: http://www.epa.gov

and of course, Google
Post-Construction Requirements

Questions?

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