

Post Construction Standards

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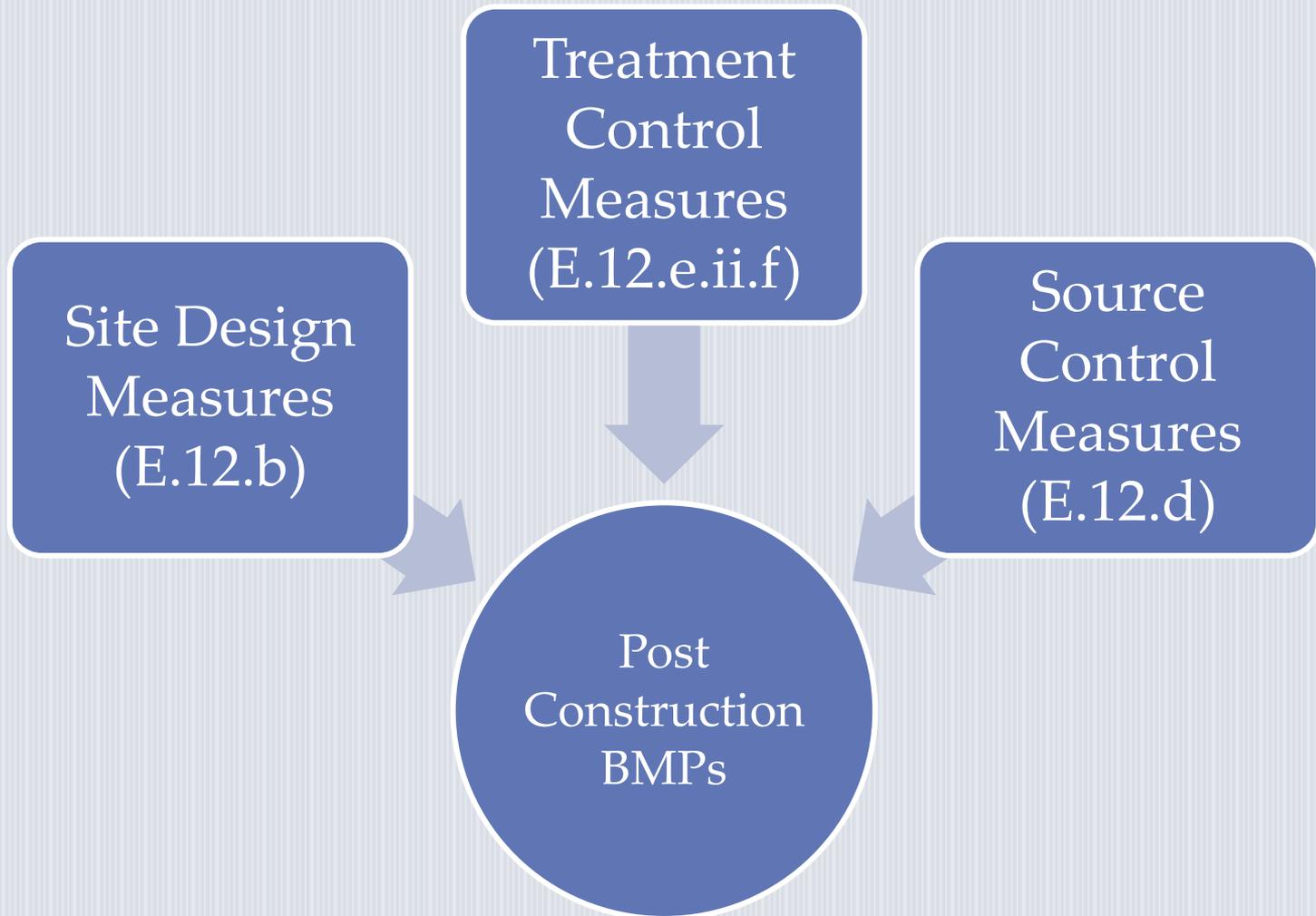
Discussion Points

- Introduction to the Phase II MS4 General Permit
- Defining Post Construction Best Management Practices (BMPs)
- Site Design Measures
- Storm Water Treatment Measures
- Source Control Measures
- Hydromodification Requirement
- City of Redding Post Construction Standards

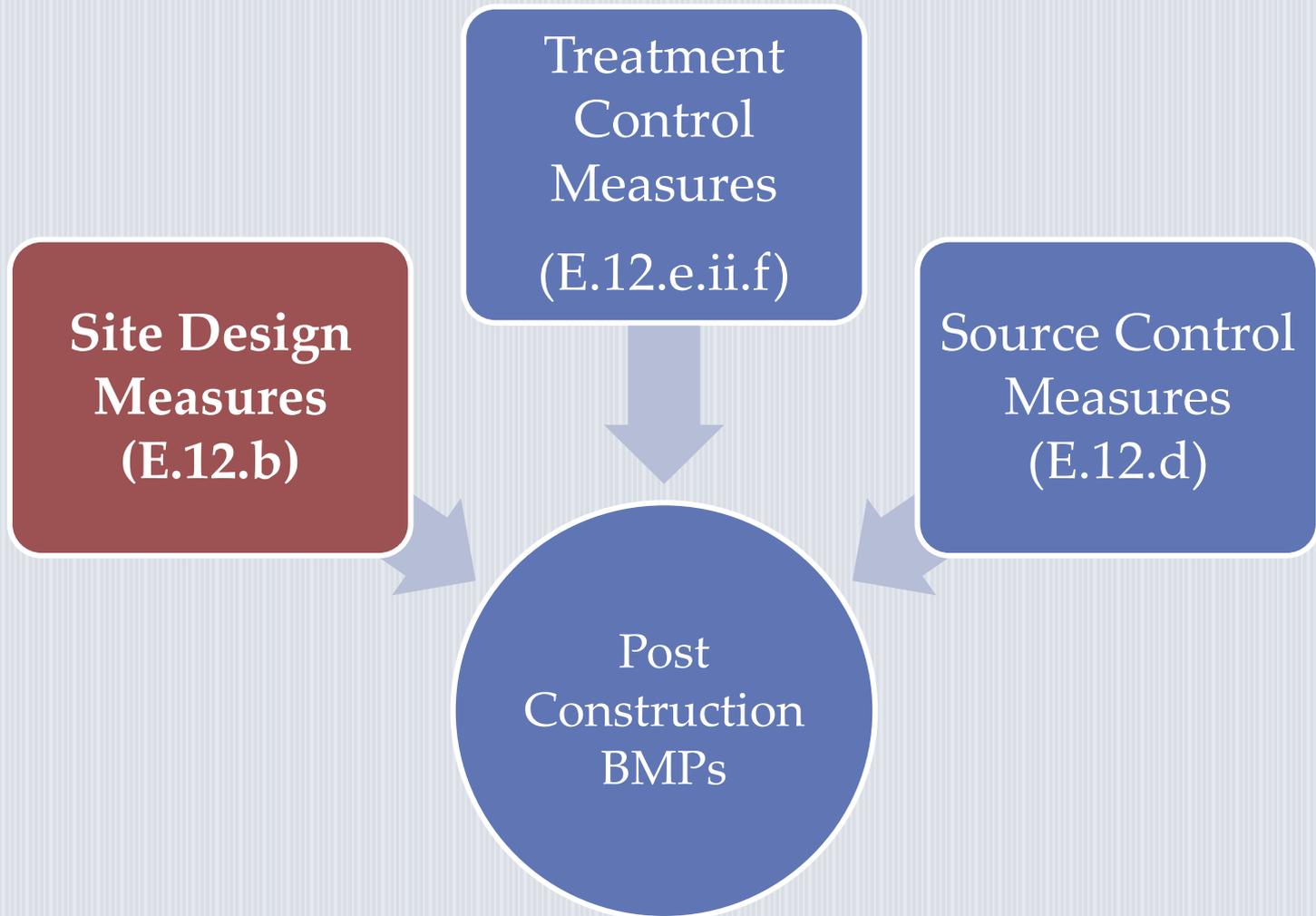
Municipal Separate Storm Sewer Systems (MS4) Phase II Permit

- Construction Site Inspections
- **Post Construction BMP Implementation Standards (Section E.12)**
- Education and Outreach Program
- Public Involvement
- Illicit Discharge Reporting
- Annual Report

Post Construction BMPs



Post Construction BMPs



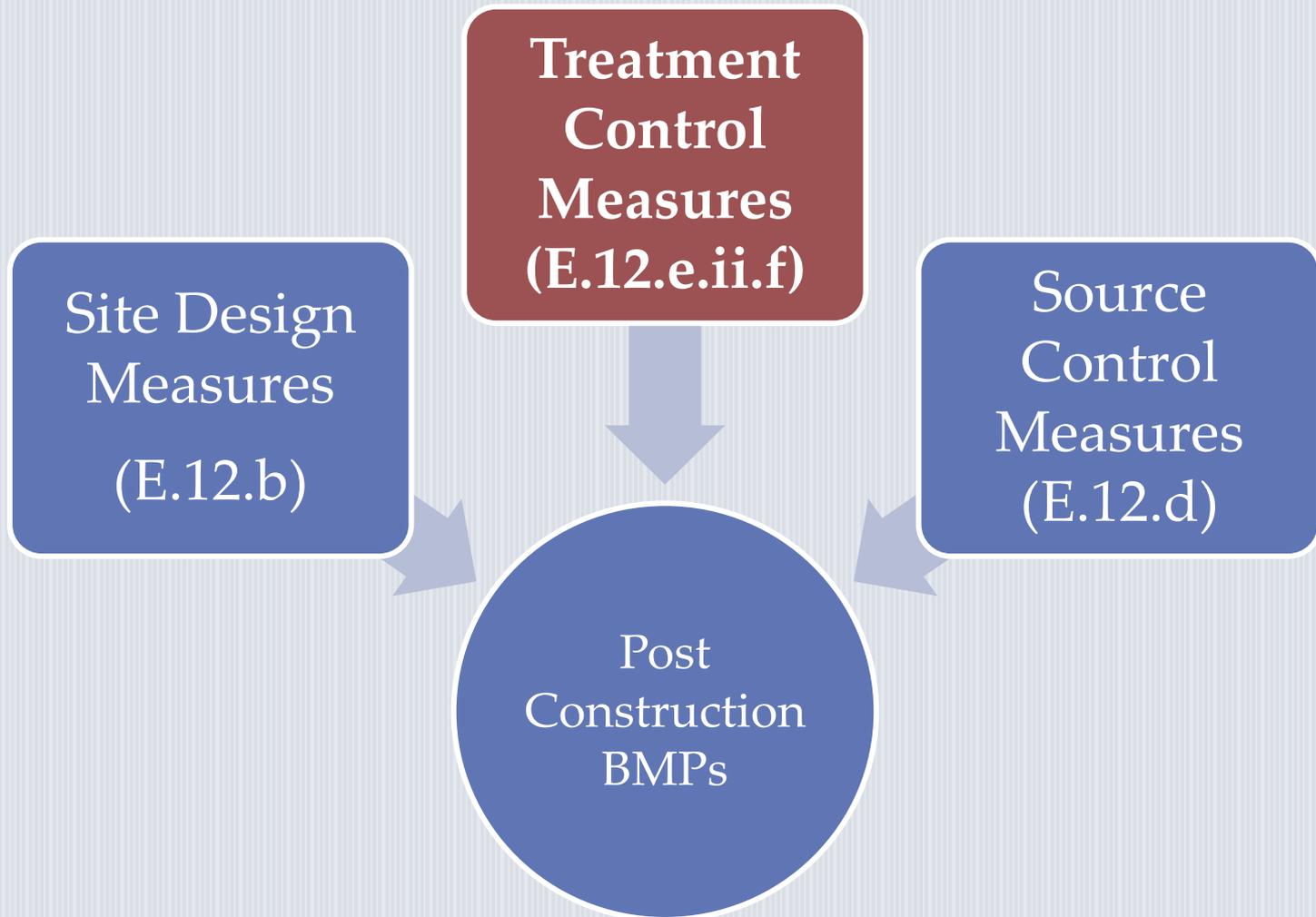
Site Design Measures (SDMs) (E.12.b)

- Reduce storm water run off by infiltration or evapotranspiration
- Minimize impervious areas
- Incorporate as many as possible

Permit Definition of SDMs

- Stream Setbacks
- Soil Quality Improvements
- Tree planting and preservation
- Rooftop and impervious area disconnection
- Porous Pavement
- Green Roofs
- Vegetated Swales
- Rain Barrels and Cisterns

Post Construction BMPs



Storm Water Treatment Control Measures (SWTM) (E.12.e.ii.f)

- After implementation of SDMs, remaining run-off directed to a SWTM
- The permit does not specifically define as with SDMs
- Permit defines performance parameters
- [Use California Phase II Sizing Tool](#)

SWTM Defined by Online Calculator

- Bioretention cells (SWTM of choice in Class D and C soils)
- Infiltration Basins – Vegetated
- Infiltration Trench
- Overland Flow No Amendment

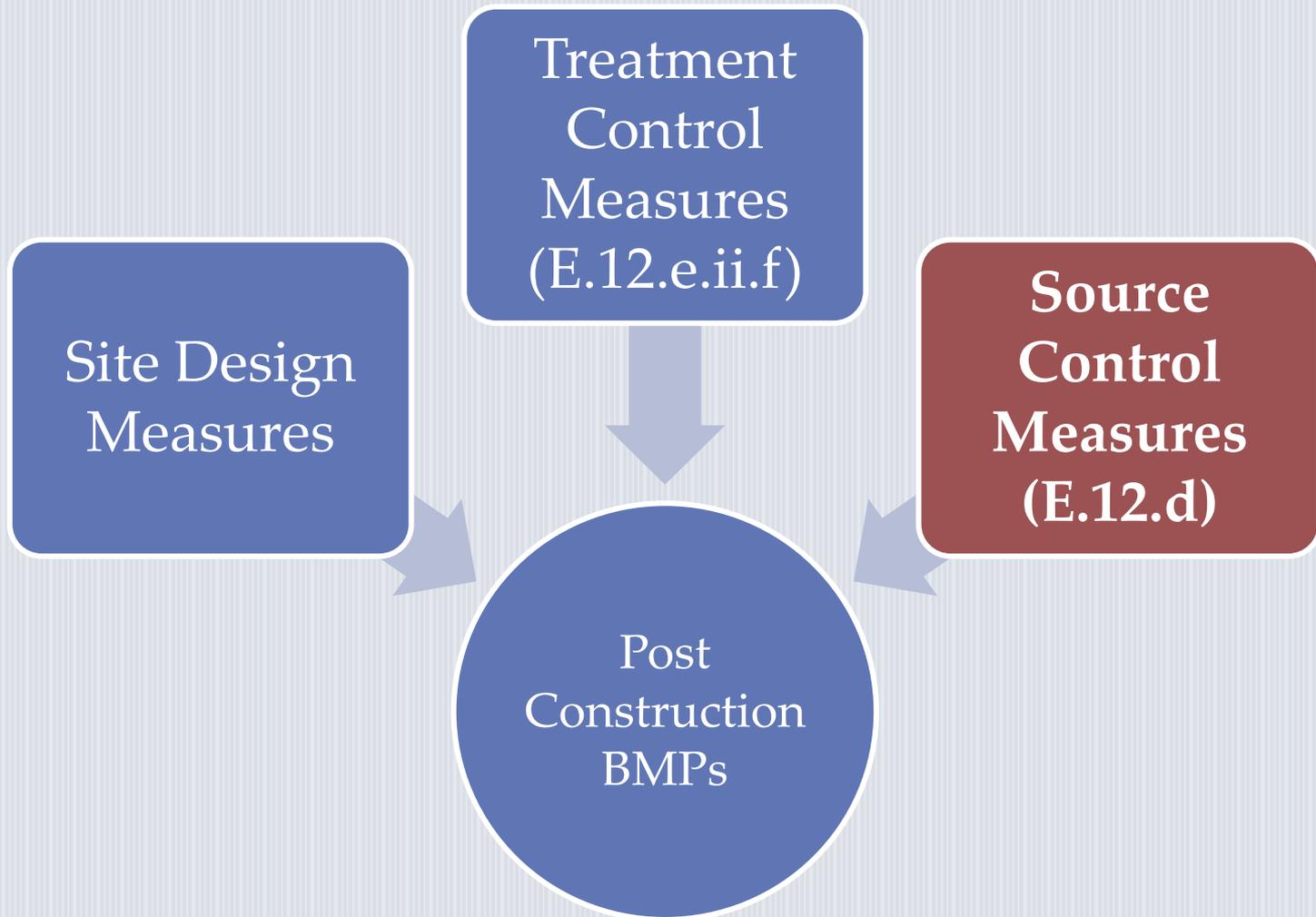
Variations of SWTM (E.12.e.ii.h)

- Facilities located within 10 ft of a building or other geotechnical hazards can install an impermeable barrier
- Use of an impervious liner and locate any underdrain at the bottom of subsurface storage when have high concentrations of pollutants or elevated plaza.
- Omit underdrain in areas of high ground water or infiltrative soils.

Variations of SWTM (E.12.e.ii.h)

- High risk areas such as fueling stations, truck stops, auto repairs, and heavy industrial sites may be required to provide additional treatment measures to address specific pollutants.

Post Construction BMPs



Source Control Measures (E.12.d)

- Identifies pollutant generating activities associated with a specific site
- Reducing pollution during specific activities
- Mitigate pollution at the **source or during the activity** rather than trying to treat the polluted storm water afterward

A Few Source Control Measures (E.12.d)

- Accidental spills or leaks
- Interior floor drains
- Parking/storage areas and maintenance
- Indoor and structural pest control
- Landscape/outdoor pesticide use
- Restaurants, grocery stores, and other food service operations
- Refuse areas

Hydromodification (E.12.f.ii.a)

- Redding, CA is in Great Valley Geomorphic Province
- Post-Project runoff shall not exceed estimated pre-project flow rate for the 2-year, 24-hour storm.
- Effective 6/30/2016

Operations and Maintenance (E.12.h)

- Review of an O&M plan during permitting
- Enforceable mechanism
 - **Deed Restriction**
 - **Statement of responsibility for the owner**
- Tracking of Post Construction BMPs by the Municipality

Storm Water Management Plan

- City of Redding [Post Construction Standards](#)