Table 6. Source Control BMPs for Industrial and Commercial Facilities

Pollutant-Generating Activity	BMP Narrative Description
Unauthorized Non-Stormwater Discharges	Effective elimination of unauthorized non-stormwater discharges
Accidental Spills/Leaks	Implementation of effective spills/leaks prevention and response procedures
Vehicle/Equipment Fueling	Implementation of effective fueling source control devices and practices
Vehicle/Equipment Cleaning	Implementation of effective equipment/vehicle cleaning practices and appropriate wash water management practices
Vehicle/Equipment Repair	Implementation of effective vehicle/equipment repair practices and source control devices
Outdoor Liquid Storage	Implementation of effective outdoor liquid storage source controls and practices
Outdoor Equipment Operations	Implementation of effective outdoor equipment source control devices and practices
Outdoor Storage of Raw Materials	Implementation of effective source control practices and structural devices
Storage and Handling of Solid Waste	Implementation of effective solid waste storage/handling practices and appropriate control measures
Building and Grounds Maintenance	Implementation of effective facility maintenance practices
Parking/Storage Area Maintenance	Implementation of effective parking/storage area designs and housekeeping/maintenance practices
Stormwater Conveyance System Maintenance Practices	Implementation of proper conveyance system operation and maintenance protocols
Pollutant-Generating Activity	**BMP Narrative Description from Los Angeles Water Board Resolution No. 98-08**
Sidewalk Washing	**1.** Remove trash, debris, and free-standing oil/grease spills/leaks (use absorbent material, if necessary) from the area before washing; and **2.** Use high pressure, low volume spray washing using only potable water with no cleaning agents at an average usage of 0.006 gallons per square feet of sidewalk area.
Street Washing	Collect and divert wash water to the sanitary sewer. Note: Approval from the applicable sanitary sewer collection agency may be needed.

6. **Progressive Enforcement.** Each Permittee shall implement its Progressive Enforcement Policy to ensure that Industrial / Commercial facilities are brought into compliance with all stormwater requirements within a reasonable time period. See Part VIII.B for requirements for the development and implementation of a Progressive Enforcement Policy.

F. Planning and Land Development Program

This Part VIII.F is applicable to all Permittees except LACFCD and VCWPD. Each Permittee except LACFCD and VCWPD must use their land use and planning authorities to implement a Planning and Land Development Program.

1. **Priority Development Projects.** Priority Development Projects are land development projects that fall under the Permittee's planning and building authority for which the Permittee must impose specific requirements, including the implementation of structural BMPs to meet the performance requirements described in Part VIII.F.4 of this Order.

   a. **Definition of Priority Development Projects.** Priority Development Projects include the following:

      i. New development projects that are in any of the following categories:

         (a) Projects equal to 1 acre or greater of disturbed area and adding more than 10,000 square feet or more of impervious surface area (collectively over the entire project site)

         (b) Industrial parks of 10,000 square feet or more of surface area

         (c) Commercial malls of 10,000 square feet or more of surface area

      ii. Redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface (collectively over the entire project site) on any of the following:

         (a) Existing sites of 10,000 square feet or more of impervious surface area

         (b) Industrial parks 10,000 square feet or more of surface area

         (c) Commercial malls 10,000 square feet or more of surface area

      iii. New development and redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface (collectively over the entire project site) and support one or more of the following uses:

         (a) Restaurants (SIC 5812)

         (b) Parking lots

         (c) Automotive service facilities (SIC 5013, 5014, 5511, 5541, 7532-7534 and 7536-7539)

         (d) Retail gasoline outlets

      iv. New development and redevelopment projects that create and/or replace 2,500 square feet or more of impervious area; discharge stormwater that is likely to impact a sensitive biological species or habitat; and are located in or directly adjacent to or are discharging directly to an ASBS, "Sensitive Ecological Area" in Los Angeles County,[50] or "Environmentally Sensitive Area" in Ventura County.[51]

      v. Street and road construction of 10,000 square feet or more of impervious surface area shall follow U.S. EPA guidance regarding Managing Wet Weather with Green Infrastructure: Green Streets (December 2008 EPA-833-F-08-009) to the maximum extent practicable. Street and road construction applies to standalone streets, roads, highways, and freeway projects. Temporary access roads are not subject to this requirement. Projects under this category are exempt from the

[50] As identified by the County of Los Angeles' Significant Ecological Areas Program. (http://planning.lacounty.gov/site/sea/home/)

[51] As identified by Ventura County Permittees using the definition of an "Environmentally Sensitive Area" in Order No. R4-2010-0108.

Priority Development Structural BMP Performance Requirements in Part VIII.F.4 of this Order.

b. Considerations for Redevelopment Projects

i. The structural BMP performance requirements of Part VIII.F.4 of this Order are applicable to redevelopment Priority Development Projects, as defined in Part VIII.F.1.a of this Order, as follows:

(a) Where redevelopment results in an alteration to more than fifty percent of impervious surfaces of a previously existing development the entire project must be mitigated.

(b) Where redevelopment results in an alteration of less than fifty percent of impervious surfaces of a previously existing development only the alteration must be mitigated, and not the entire development.

ii. Redevelopment does not include routine maintenance activities that are conducted to maintain original line and grade, hydraulic capacity, original purpose of facility or emergency redevelopment activity required to protect public health and safety. Impervious surface replacement, such as the reconstruction of parking lots and roadways which does not disturb additional area and maintains the original grade and alignment, is considered a routine maintenance activity. Redevelopment does not include the repaving of existing roads to maintain original line and grade.

c. Exemptions. Permittees can exempt themselves from the Priority Development Project Structural BMP Performance Requirements in Part VIII.F.4 of this Order if they implement one of the following:

i. Local Ordinance Equivalence. A Permittee that has adopted a local LID ordinance prior to the adoption of this Order, and which includes a retention requirement numerically equal to the 0.75-inch, 24-hour rain event or the 85th percentile, 24-hour rain event, whichever is greater, may submit documentation to the Los Angeles Water Board that the alternative requirements in the local ordinance will provide equal or greater reduction in stormwater discharge pollutant loading and volume as would have been obtained through strict conformance with Part VIII.F.4 of this Order and, if applicable, Part VIII.F.2 of this Order.

(a) The Los Angeles Water Board shall provide public notice of the proposed equivalency determination and a minimum 30-day period for public comment. After review and consideration of public comments, the Los Angeles Water Board Executive Officer will determine whether implementation of the local ordinance provides equivalent pollutant control to the applicable provisions of this Order. Local ordinances that do not strictly conform to the provisions of this Order must be approved by the Los Angeles Water Board Executive Officer as being “equivalent” in effect to the applicable provisions of this Order in order to substitute for the requirements in Part VIII.F.4 of this Order and, where applicable, Part VIII.F.2 of this Order.

(b) Where the Los Angeles Water Board Executive Officer determines that a Permittee’s local LID ordinance does not provide equivalent pollutant control, the Permittee shall either:

(1) Require conformance with Part VIII.F.4 of this Order and, where applicable, Part VIII.F.2 of this Order, or

(2) Update its local ordinance to conform to the requirements herein and resubmit to the Los Angeles Water Board Executive Officer for approval.

ii. Regional Stormwater Mitigation Program. Permittees may apply for approval of a regional or sub-regional stormwater mitigation program to substitute in part or wholly for new development and redevelopment requirements for proposed areas. Upon review and a determination by the Los Angeles Water Board Executive Officer that the proposal is technically valid and appropriate, the Los Angeles Water Board may consider for approval such a program if its implementation meets all of the following requirements:

(a) Retains the runoff from the 85th percentile, 24-hour rain event or the 0.75 inch, 24-hour rain event, whichever is greater;

(b) Results in improved stormwater quality;

(c) Meets the hydromodification management requirements in Part VIII.F.2 of this Order if applicable;

(d) Is fiscally sustainable and has secure funding; and

(e) Is completed in five years including the construction and start-up of treatment facilities.

(f) Nothing in this provision shall be construed as to delay the implementation of requirements for new development and redevelopment, as approved in this Order.

iii. Specific LID Performance Standards attached to Waste Discharge Requirements (Order No. R4-2012-0139) for Newhall Ranch Project Phases I and II. The Newhall Ranch Project Phases I and II (a.k.a. the Landmark and Mission Village projects) are deemed to be an existing development that will at a minimum be designed to comply with the Specific LID Performance Standards attached to the Waste Discharge Requirements in Order No. R4-2012-0139. All subsequent phases of the Newhall Ranch Project constructed during the term of this Order shall be subject to the requirements of this Order.

d. Priority Development Project Structural BMP Performance Requirements. Each Permittee shall require all Priority Development Projects identified in Part VIII.F.1.a of this Order to meet the Structural BMP Performance Requirements contained in Part VIII.F.4 of this Order in the following order of preference:

i. On-site infiltration, bioretention and/or rainfall harvest and use,

ii. If subpart i above is infeasible, on-site biofiltration, off-site groundwater replenishment, and/or off-site retrofit, or

iii. If subpart ii above is infeasible, on-site treatment, where all the above options are infeasible.

2. Hydromodification Management Requirements. Permittees must require (i) Priority Development Projects within natural drainage systems in Los Angeles County and (ii) Priority Development Projects disturbing land areas of 50 acres or greater in Ventura County to implement hydrological control measures to prevent accelerated downstream erosion and protect stream habitat.

a. Definition of Natural Drainage Systems. Natural drainage systems that are subject to the hydromodification assessments and control include all drainages that have not been modified using engineering controls or drainages that are tributary to a natural drainage system. Examples of engineering modifications to a drainage include channelization, armoring with concrete, and application of rip-rap. The clearing or dredging of a natural drainage system does not constitute a "modification" for purposes of these provisions.

b. Exemptions to Hydromodification Controls. Permittees may exempt the following New Development and Redevelopment projects from implementation of hydromodification controls where assessments of downstream channel conditions and proposed discharge hydrology indicate that adverse hydromodification effects to beneficial uses of Natural Drainage Systems are unlikely:

i. Projects that are replacement, maintenance or repair of a Permittee's existing flood control facility, storm drain, or transportation network.

ii. Redevelopment Projects in the Urban Core that do not increase the effective impervious area or decrease the infiltration capacity of pervious areas compared to the pre-project conditions.

iii. Projects that have any increased discharge directly or via a storm drain to a sump, lake, area under tidal influence, into a waterway that has a 100-year peak flow (Q100) of 25,000 cfs or more, or other receiving water that is not susceptible to hydromodification impacts.

iv. Projects that discharge directly or via a storm drain into concrete or otherwise engineered (not natural) channels (e.g., channelized or armored with rip rap, shotcrete, etc.), which, in turn, discharge into receiving water that is not susceptible to hydromodification impacts (as in Parts VIII.F.2.b.i-iii above).

v. LID BMPs implemented on single family homes are sufficient to comply with Hydromodification criteria.

c. Hydromodification Management Control Criteria

i. Projects disturbing an area less than or equal to 1 acre must implement controls meeting applicable performance requirements in Part VIII.F.4 of this Order.

ii. Projects disturbing an area greater than 1 acre, but less than 50 acres will be presumed to meet pre-development hydrology if one of the following demonstrations are made:

(a) The project is designed to retain onsite the runoff of the 95th percentile, 24-hour storm; or

(b) The runoff flow rate, volume, velocity, and duration for the post-development condition do not exceed the pre-development condition for the 2-year, 24-hour storm event. This condition may be substantiated by simple screening models, including those described in Hydromodification Effects on Flow Peaks and Durations in Southern California Urbanizing Watersheds or other models acceptable to the Executive Officer of the Los Angeles Water Board; or

(c) The Erosion Potential (Ep) in the receiving water is approximately 1. Ep is determined as follows: The total *effective work* done on the channel boundary is derived and used as a metric to predict the likelihood of channel adjustment given watershed and stream hydrologic and geomorphic

variables. The index under urbanized conditions is compared to the index under pre-urban conditions expressed as a ratio (Ep). The effective work index (*W*) can be computed in several different ways including simplistic work equations, material specific sediment transport equations, or more complex functions based on site calibrated sediment rating curves. One such work equation, which represents the total work done on the channel boundary, includes the following:

$$\textbf{\textit{Equation 1}}: \quad W = \sum_{i=1}^{n} (\tau_i - \tau_c)^{1.5} \cdot V \cdot \Delta t_i$$

Where: *W* = effective work, τ_c = critical shear stress that initiates bed mobility or erodes the weakest bank layer, τ_i = applied hydraulic shear stress, Δt = duration of flows (in hours), *V* = mid-channel flow velocity, and *n* = length of flow record. The effective work index for presumed stable stream channels under pre-urban conditions (W_{post}) is compared to stable and unstable channels under current urbanized conditions (W_{pre}). The comparison, expressed as a ratio, is defined as the Erosion Potential (E_p)[52] (McRae (1992, 1996)).

$$\textbf{\textit{Equation 2}}: \quad Ep = \frac{W_{post}}{W_{pre}}$$

where:

W_{post} = work index estimated for the post-urban condition

W_{pre} = work index estimated for the pre-urban condition

Alternatively, Permittees can demonstrate that an Ep of approximately 1 has been achieved in the receiving water as determined by a Hydromodification Analysis Study or opt to use other work equations to demonstrate that an Ep of approximately 1 has been achieved for Los Angeles Water Board Executive Officer approval. Additionally, Permittees can use a sediment transport function such as the Brownlie equation or the Meyer-Peter and Muller equation (*US Department of Agriculture, Natural Resources Conservation Service, 2007. Part 654 Stream Restoration Design, National Engineering Handbook, August 2007*) to demonstrate appropriate Hydromodification control.

iii. Projects disturbing 50 acres or more will be presumed to meet pre-development hydrology based on the successful demonstration of one of the following conditions:

(a) The site infiltrates onsite the runoff from a 2-year, 24-hour storm event; or

(b) The runoff flow rate, volume, velocity, and duration for the post-development condition does not exceed the pre-development condition for the 2-year,

[52] MacRae, C.R. 1992. The Role of Moderate Flow Events and Bank Structure in the Determination of Channel Response to Urbanization. Resolving conflicts and uncertainty in water management: Proceedings of the 45th Annual Conference of the Canadian Water Resources Association. Shrubsole, D, ed. 1992, pg. 12.1-12.21; MacRae, C.R. 1996. Experience from Morphological Research on Canadian Streams: Is Control of the Two-Year Frequency Runoff Event the Best Basis for Stream Channel Protection. Effects of Watershed Development and Management on Aquatic Ecosystems, ASCE Engineering Foundation Conference, Snowbird, Utah, pg. 144-162.

24-hour storm event. These conditions must be substantiated by hydrologic modeling acceptable to the Los Angeles Water Board Executive Officer; or

(c) The Erosion Potential (Ep) in the receiving water is approximately 1.

d. Alternative Criteria

i. Low Impact Development Manual. Permittees may satisfy hydromodification requirements by implementing the hydromodification requirements in the current County of Los Angeles Low Impact Development Manual and/or Ventura County Hydromodification Control Plan for all projects disturbing an area greater than 1 acre within natural drainage systems.

ii. Hydromodification Control Plans. Permittees may alternatively develop and implement watershed specific Hydromodification Control Plans (HCPs). Such plans shall be developed no later than one year after the effective date of this Order for Los Angeles Water Board Executive Officer approval. The HCP shall be deemed in effect upon approval.

(a) An HCP shall identify:

(1) Stream classifications

(2) Flow rate and duration control methods

(3) Sub-watershed mitigation strategies

(4) Stream and/or riparian buffer restoration measures, which will maintain the stream and tributary Erosion Potential at 1 unless an alternative value can be shown to be protective of the natural drainage systems from erosion, incision, and sedimentation that can occur as the result of flow increases from impervious surfaces and prevent damage to stream habitat in natural drainage system tributaries.

(b) An HCP shall contain the following elements:

(1) Hydromodification Management Standards

(2) Natural Drainage Areas and Hydromodification Management Controls

(3) Hydromodification Management Control Design Criteria

(4) For flow duration control methods, the range of flows to control for, and goodness of fit criteria

(5) Allowable low critical flow (*Qc*) which initiates sediment transport

(6) Description of the approved Hydromodification Model

(7) Any alternate Hydromodification Management Model and Design

(8) Stream Restoration Measures Design Criteria

(9) Monitoring and Effectiveness Assessment

(10) Record Keeping

3. Implementation Requirements

a. Project Coordination. Each Permittee shall facilitate a process for effective approval of post-construction stormwater control measures. The process shall include:

i. Detailed LID site design and BMP review including BMP sizing calculations, BMP pollutant removal performance, and municipal approval; and

ii. An established structure for communication and delineated authority between and among municipal departments that have jurisdiction over project review, plan approval, and project construction through memoranda of understanding or an equivalent agreement.

b. Maintenance Agreement and Transfer. Prior to issuing approval for final occupancy, each Permittee shall require that all new development and redevelopment projects subject to post-construction BMP requirements, with the exception of simple LID BMPs implemented on single family residences, provide an operation and maintenance plan, monitoring plan, where required, and verification of ongoing maintenance provisions for LID practices, Treatment Control BMPs, and Hydromodification Control BMPs including but not limited to: final map conditions, legal agreements, covenants, conditions or restrictions, CEQA mitigation requirements, conditional use permits, and/or other legally binding maintenance agreements. Permittees shall require maintenance records be kept on site for treatment BMPs implemented on single family residences.

i. Verification at a minimum shall include the developer's signed statement accepting responsibility for maintenance until the responsibility is legally transferred; and either:

(a) A signed statement from the public entity assuming responsibility for BMP maintenance; or

(b) Written conditions in the sales or lease agreement, which require the property owner or tenant to assume responsibility for BMP maintenance and conduct a maintenance inspection at least once a year; or

(c) Written text in project covenants, conditions, and restrictions for residential properties assigning BMP maintenance responsibilities to the Homeowners Association; or

(d) Any other legally enforceable agreement or mechanism that assigns responsibility for the maintenance of BMPs.

ii. Each Permittee shall require all development projects subject to post-construction BMP requirements to provide a plan for the operation and maintenance of all structural and treatment controls. The plan shall be submitted for examination of relevance to keeping the BMPs in proper working order. Where BMPs are transferred to Permittee for ownership and maintenance, the plan shall also include all relevant costs for upkeep of BMPs in the transfer. Operation and Maintenance plans for private BMPs shall be kept on-site for periodic review by Permittee inspectors.

c. Tracking, Inspection, and Enforcement of Post-Construction BMPs. Each Permittee shall implement a tracking system and an inspection and enforcement program for new development and redevelopment post-construction stormwater no later than 60 days after Order adoption date.

i. Implement a GIS or other electronic system for tracking projects that have been conditioned for post-construction BMPs. The electronic system, at a minimum, should contain the following information:

(a) Municipal Project ID

(b) Project Acreage

(c) BMP Type and Description

(d) BMP Location (coordinates)

(e) Date of Acceptance

(f) Date of Maintenance Agreement

(g) Maintenance Records

(h) Inspection Date and Summary

(i) Corrective Action

(j) Date Certificate of Occupancy Issued

(k) Replacement or Repair Date

ii. Inspect all development sites upon completion of construction and prior to the issuance of occupancy certificates to ensure proper installation of LID measures, structural BMPs, treatment control BMPs and hydromodification control BMPs. The inspection may be combined with other inspections provided it is conducted by trained personnel.

iii. Verify proper maintenance and operation of post-construction BMPs previously approved for new development and redevelopment and operated by the Permittee. The post-construction BMP maintenance inspection program shall incorporate the following elements:

(a) The development of a Post-construction BMP Maintenance Inspection checklist; and

(b) Inspection at least once every 2 years after project completion, of post-construction BMPs to assess operation conditions with particular attention to criteria and procedures for post-construction treatment control and hydromodification control BMP repair, replacement, or re-vegetation.

iv. For post-construction BMPs operated and maintained by parties other than the Permittee, the Permittee shall require the other parties to document proper maintenance and operations.

v. Undertake enforcement action per the established Progressive Enforcement Policy as appropriate based on the results of the inspection. See Part VIII.B of this Order for requirements for the development and implementation of a Progressive Enforcement Policy.

4. Priority Development Project Structural BMP Performance Requirements

a. Water Quality / Flow Reduction / Resources Management Criteria

i. Except as provided in Part VIII.F.1.c, Part VIII.F.2, or Part VIII.F.4.b of this Order, each Permittee shall require Priority Development Projects to retain on-site the Storm Water Quality Design Volume (SWQDV). The SWQDV is defined the greater of the following:

(a) The runoff from the 0.75-inch, 24-hour rain event; or

(b) The runoff from the 85th percentile, 24-hour rain event.

ii. When evaluating the potential for on-site retention, each Permittee shall consider the maximum potential for evapotranspiration from green roofs and rainfall harvest and use.

b. Alternative Compliance

i. In instances of technical infeasibility or where a project has been determined to provide an opportunity to replenish regional ground water supplies at an offsite location within the same sub-watershed (HUC-12) as the new development or redevelopment project, each Permittee may allow projects to comply with this Order through the alternative compliance measures as described in Part VIII.F.4.c of this Order.

ii. Technical Infeasibility Demonstration. Technical infeasibility may be determined by the Permittee or demonstrated to the Permittee by the project applicant. If a project applicant is demonstrating technical infeasibility, the project applicant must demonstrate that the project cannot reliably retain 100 percent of the SWQDV on-site, even with the maximum application of green roofs and/or rainwater harvest and use, and that compliance with the applicable postconstruction requirements would be technically infeasible by submitting a site-specific hydrologic and/or design analysis conducted and endorsed by a registered professional engineer, geologist, architect, and/or landscape architect. Technical infeasibility may result from conditions including the following:

(a) The infiltration rate of saturated in-situ soils is less than 0.3 inch per hour and it is not technically feasible to amend the in-situ soils to attain an infiltration rate necessary to achieve reliable performance of infiltration or bioretention BMPs in retaining the SWQDV on-site.

(b) Locations where seasonal high ground water is within 5 to 10 feet of the surface.

(c) Locations within 100 feet of a ground water well used for drinking water.

(d) Brownfield development sites where infiltration poses a risk of causing pollutant mobilization.

(e) Other locations where pollutant mobilization is a documented concern.[53]

(f) Locations with potential geotechnical hazards.

(g) Smart growth and infill or redevelopment locations where the density and/or nature of the project would create significant difficulty for compliance with the on-site volume retention requirement.

iii. Alternative Compliance for Groundwater Replenishment Opportunities. To utilize alternative compliance measures to replenish groundwater at an offsite location, the project applicant shall demonstrate:

(a) Why it is not advantageous to replenish groundwater at the project site,

(b) That the offsite location is in the same subwatershed (HUC-12) as the Priority Development Project,

(c) That groundwater can be used for beneficial purposes at the offsite location, and

[53] Pollutant mobilization is considered a documented concern at or near properties that are contaminated or store hazardous substances underground.

(d) That the alternative measures shall also provide equal or greater water quality benefits to the receiving surface water than the Water Quality/Flow Reduction/Resource Management Criteria in Part VIII.F.4.a of this Order.

c. Alternative Compliance Measures

i. Onsite Biofiltration: Projects can use biofiltration for 1.5 times the portion of the SWQDV that is not reliably retained onsite where R_v = volume reliably retained onsite and B_v is the biofiltration volume.

$$\textbf{\textit{Equation 3}}: \quad B_v = 1.5(SWQDV - R_v)$$

(a) Biofiltration systems shall, at a minimum, meet design specifications consistent with those provided in the Los Angeles County LID Manual, Ventura County Technical Guidance Manual for Storm Water Quality Control Measures (July 2002 and its revisions), or equivalent LID Manual.

(b) Biofiltration systems discharging to a receiving water that is included on the Clean Water Act section 303(d) list of water quality-limited (i.e., impaired) water bodies due to nitrogen compounds or related effects shall be designed and maintained to achieve enhanced nitrogen removal capacity.

ii. Onsite Flow-based BMPs: If a Permittee determines that onsite biofiltration and offsite alternative compliance measures are not technically feasible, the Permittee may request the Executive Officer allow the use of onsite flow-based BMPs. In the request, Permittees must outline why none of the other alternative compliance measures are feasible. Approval will only be granted to areas where other alternative compliance measures are not feasible due to significant technical issues.

If approved, the Permittee may allow the Priority Development Project to utilize flow-through treatment control BMPs to treat runoff leaving the site, and mitigate for the design capture volume not reliably retained onsite pursuant to Part VIII.F.4.a of this Order. Flow-through treatment control BMPs must be sized and designed to:

(a) Filter or treat either:

(1) The maximum flow rate of runoff produced from a rainfall intensity of 0.2 inch of rainfall per hour, for each hour of a storm event; or

(2) The maximum flow rate of runoff produced by the 85th percentile hourly rainfall intensity (for each hour of a storm event), as determined from the local historical rainfall record, multiplied by a factor of two;

(b) Be certified for "Enhanced Treatment" under the Washington State Department of Ecology's TAPE Program; or an appropriate future BMP certification developed by the State of California.

iii. Off-site Infiltration: Projects may use infiltration or bioretention BMPs to intercept a volume of stormwater runoff equal to the SWQDV, less the volume of stormwater runoff reliably retained onsite, at an approved offsite project located within the same subwatershed (HUC-12) as the Priority Development Project, and provide pollutant reduction (treatment) of the stormwater runoff discharged from the project site in accordance with the Water Quality Mitigation Criteria provided in Part VIII.F.4.d of this Order. The required offsite mitigation volume (M_v) shall be calculated by the equation below:

$$\textbf{\textit{Equation 4}}: \quad M_v = SWQDV - R_v$$

iv. Groundwater Replenishment Projects: Permittees may propose regional projects to replenish regional groundwater supplies at offsite location, provided the groundwater supply has a designated beneficial use in the Basin Plan.

(a) Regional groundwater replenishment projects must use infiltration, groundwater replenishment, or bioretention BMPs to intercept a volume of stormwater runoff equal to the SWQDV for Priority Development Projects, within the approved project area, and

(b) Provide pollutant reduction (treatment) of the stormwater runoff discharged from Priority Development Projects, within the project area to mitigate stormwater pollution in accordance with the Water Quality Mitigation Criteria provided in Part VIII.F.4.d of this Order.

(c) Permittees implementing a regional groundwater replenishment project in lieu of onsite controls shall ensure the volume of runoff captured by the project shall be equal to the mitigation volume calculated using Equation 4 in Part VIII.F.4.c.iii of this Order.

(d) Regional groundwater replenishment projects must be located in the same sub-watershed (HUC-12) as the Priority Development Project(s) that did not fully retain the SWQDV. Permittees may consider locations outside of the HUC-12 but within the HUC-10 subwatershed area if there are no opportunities within the HUC-12 subwatershed or if greater pollutant reductions and/or groundwater replenishment can be achieved at a location within the larger HUC-10 subwatershed. The use of a mitigation, groundwater replenishment, or retrofit project outside of the HUC-12 subwatershed is subject to the approval of the Executive Officer of the Los Angeles Water Board.

v. Off-site Project – Retrofit Existing Development: Project proponents may use infiltration, bioretention, rainfall harvest and use and/or biofiltration BMPs to retrofit an existing development, with similar land uses or land uses associated with comparable or higher stormwater runoff event mean concentrations (EMCs) than the as the project which did not fully retain the SWQDV. Comparison of EMCs for different land uses shall be based on published data from studies performed in southern California.

(a) The retrofit land shall be designed and constructed to intercept a volume of stormwater runoff equal to the mitigation volume as described above in Equation 4, except biofiltration BMPs shall be designed to meet the biofiltration volume as described in Equation 3 and

(b) Provide pollutant reduction (treatment) of the stormwater runoff from the project site as described in the Water Quality Mitigation Criteria provided in Part VIII.F.4.d of this Order.

d. Water Quality Mitigation Criteria

i. Each Permittee shall require all Priority Development Projects that have been approved for offsite mitigation or ground water replenishment projects as defined in Part VIII.F.4.b through Part VIII.F.4.c of this Order to also provide treatment of stormwater runoff from the project site. Each Permittee shall require these projects to design and implement post-construction stormwater BMPs and

control measures to reduce pollutant loading as necessary to ensure that the controls implemented on the site are designed so that the discharge does not cause or contribute to an exceedance of receiving water limitations at the Permittee's downstream MS4 outfall.

ii. Each Permittee may allow the project proponent to install flow-through modular treatment systems including sand filters, or other proprietary BMP treatment systems that are certified for "Basic Treatment" under the Washington State Department of Ecology's TAPE Program; or an appropriate future BMP certification developed by the State of California. The sizing of the flow through treatment device shall be based on a rainfall intensity of:

(a) 0.2 inch per hour, or

(b) The one year, one-hour rainfall intensity as determined from the most recent Los Angeles County or Ventura County isohyetal map, whichever is greater.

iii. In addition to the requirements for controlling pollutant discharges as described in Part VIII.F.4.c of this Order and the treatment benchmarks described above, each Permittee shall ensure that the new development or redevelopment will not cause or contribute to an exceedance of applicable limitations at the outfall established in Part IV.B and Attachments K though S of this Order.

G. Construction Program

1. **Construction Program Applicability.** The requirements contained in this part apply to all activities involving land disturbance with the exception of agricultural activities. Activities covered by this permit include construction or demolition activity, including, but not limited to clearing, grading, grubbing, soil compaction, excavation, paving or re-paving, linear underground/overhead projects (LUPs), or any other activity that results in a land disturbance.

2. Each Permittee shall develop, implement, and enforce a construction program that:

   a. Prevents illicit construction-related discharges of pollutants into the MS4 and receiving waters.

   b. Implements and maintains structural and non-structural BMPs to reduce pollutants in stormwater runoff from construction sites.

   c. Reduces construction site discharges of pollutants to the MS4 to the maximum extent possible.

   d. Prevents construction site discharges to the MS4 from causing or contributing to a violation of receiving water limitations.

   e. Ensures that the pertinent provisions contained in Part VIII.F (Planning and Land Development Program) of this Order are incorporated in applicable construction projects.

3. Each Permittee shall establish for its jurisdiction an enforceable erosion and sediment control ordinance, or equivalent municipal code language, for all construction sites that disturb land.

4. **Construction Sites Less than One Acre.** The provisions contained in this Part VIII.G.4 apply exclusively to construction sites less than 1 acre that are not part of a common plan of development.

   a. BMP Implementation. Through the use of the Permittee's erosion and sediment control ordinance and/or building permit, the Permittee shall require the