CITY OF OAKLAND

STORMWATER REQUIREMENTS: OVERVIEW OF PROVISION C.3

Background: On October 14, 2009, the Regional Water Quality Control Board, San Francisco Bay Region, issued a municipal regional stormwater permit (MRP) under the National Pollutant Discharge Elimination System (NPDES) permit program to the Alameda Countywide Clean Water Program (ACCWP). The goal of the MRP is to reduce pollution in stormwater runoff and limit increases in runoff flows from development projects. The City of Oakland, as a member of ACCWP, is a co-permittee under ACCWP's permit and is, therefore, subject to the MRP requirements.

Frequently Asked Questions Concerning the NPDES C.3 Requirements:

1. What is Provision C.3?

Provision C.3 is the section of the MRP containing post-construction stormwater management requirements for new development and redevelopment projects.

2. What are "Regulated Projects"?

"Regulated Projects" are projects that must comply with certain requirements in Provision C.3. The following types of projects are considered Regulated Projects:

- *Projects that create or replace 10,000 square feet or more of new or existing impervious surface area;*[1] *and*
- *Beginning December 1, 2011, the following projects ("Special Land Use Categories") that create or replace 5,000 square feet or more of new or existing impervious surface area:*
  - *Auto servicing, auto repair, and gas stations;*
  - *Restaurants (full service, limited service, and fast-food); and*
  - *Uncovered surface parking lots (including stand-alone parking lots, parking lots serving an activity, and uncovered portions of parking structures unless drainage from the uncovered portion of the parking structure is connected to the sanitary sewer system).*

3. Are there any projects exempt from the definition of Regulated Projects?

The following types of projects are not considered Regulated Projects:

- *Individual single-family dwellings that are not part of larger multi-dwelling developments;*
- *Routine maintenance or repair, such as pavement resurfacing within the existing footprint;*
- *Reconstruction of existing roadways, sidewalks, bicycle lanes, and trails within the existing footprint;*
- *Widening of existing roadways that does not add one or more new vehicle travel lanes;*
- *New sidewalks and bicycle lanes that are not built as part of new roadways;*
- *New sidewalks built as part of new roadways and built to direct stormwater runoff to adjacent vegetated areas;*
- *New bicycle lanes that are built as part of new roadways but are not hydraulically connected to the new roadways and that direct stormwater runoff to adjacent vegetated areas;*

[1] Impervious surface is any surface that cannot be effectively (easily) penetrated by water. Permeable paving (such as permeable concrete and interlocking pavers) underlain with permeable soil or permeable storage material, and green roofs with a minimum of three inches of planting media, are not considered impervious surfaces.

- *New impervious trails with a width of 10 feet or less and located more than 50 feet from the top of creek banks;*
- *New impervious trails built to direct stormwater runoff to adjacent vegetated areas, or other non-erodible permeable areas; and*
- *New sidewalks, bicycle lanes, or trails constructed with permeable surfaces.*

4. What are the requirements for Regulated Projects?

Provision C.3 requires Regulated Projects to incorporate post-construction stormwater management measures, including site design measures, source control measures, and stormwater treatment measures to reduce stormwater pollution after construction of the project. These requirements are in addition to standard stormwater-related best management practices (BMPs) required during construction, such as sedimentation and erosion control measures.

5. What are site design measures?

Site design measures are design techniques incorporated into new development and redevelopment projects to enhance the stormwater quality of the site, most commonly by reducing the amount of impervious surface at the site. Regulated Projects must implement the following site design measures, as applicable:

- *Limit disturbance of natural water bodies and drainage systems, minimize compaction of highly permeable soils, protect slopes and channels, and minimize impacts from stormwater and urban runoff on the biological integrity of natural drainage systems and water bodies;*
- *Conserve natural areas, including existing trees, other vegetation, and soils;*
- *Minimize impervious surfaces;*
- *Minimize disturbances to natural drainages; and*
- *Minimize stormwater runoff by implementing one or more of the following:*
  - *Direct roof runoff into cisterns or rain barrels for reuse;*
  - *Direct roof runoff onto vegetated areas;*
  - *Direct runoff from sidewalks, walkways, and/or patios onto vegetated areas;*
  - *Direct runoff from driveways and/or uncovered parking lots onto vegetated areas;*
  - *Construct sidewalks, walkways, and/or patios with permeable surfaces; and*
  - *Construct driveways, bike lanes, and/or uncovered parking lots with permeable surfaces.*

6. What are source control measures?

Source control measures are structural and operational practices to prevent pollutants from contacting stormwater runoff. Regulated Projects must implement the following site design measures, as applicable:

- *Cover trash storage areas and design these areas to prevent stormwater run-on into the trash area;*
- *Cover outdoor material storage areas, loading docks, repair/maintenance bays, and fueling areas or design these areas to limit pollutant contact with stormwater runoff;*
- *Direct discharges from indoor floor mats, equipment, hood filters, wash racks, and covered outdoor wash racks for restaurants to the sanitary sewer;*
- *Direct discharges from covered trash, food waste, and compactor enclosures to the sanitary sewer;*
- *Direct discharges from covered outdoor wash areas for vehicles, equipment, and accessories to the sanitary sewer;*
- *Discharge swimming pool water to on-site vegetated areas, or to the sanitary sewer system if discharge to on-site vegetated areas is not feasible;*
- *Discharge fire sprinkler test water to on-site vegetated areas, or to the sanitary sewer system if discharge to on-site vegetated areas is not feasible;*

- *Incorporate sustainable landscaping practices, such as minimizing irrigation and runoff, promoting surface infiltration, minimizing the use of pesticides and fertilizers, and other practices of Bay Friendly Landscaping;*[2]
- *Use efficient irrigation systems, such as weather-based controllers with rain sensors; and*
- *Install stenciling or signage at storm drain inlets, such as "No Dumping – Drains to Bay."*

7. What are stormwater treatment measures?

Stormwater treatment measures are engineered systems that use physical, chemical, or biological processes to remove pollutants from stormwater runoff. Examples of stormwater treatment measures include plant-based systems such as bioretention areas and vegetated swales, as well as mechanical systems such as vault-type media filters.

8. For Regulated Projects, what volume of stormwater runoff must the stormwater treatment measures treat?

The stormwater treatment measures are required to treat stormwater runoff from <u>all</u> of the new/replaced impervious surface. In other words, stormwater runoff from <u>all</u> of the new/replaced impervious surface must pass through a treatment system before being discharged off-site. The stormwater treatment measures must be designed according to one of the following hydraulic sizing criteria contained in Provision C.3:

A. <u>Volume Hydraulic Design Basis</u> – Treatment measures whose primary mode of action depends on volume capacity:

1) The maximized stormwater capture volume for the area, on the basis of historical rainfall records, determined using the formula and volume capture coefficients set forth in Urban Runoff Quality Management, WEF Manual of Practice No. 23 / ASCE Manual of Practice No 87 (1998), pages 175-178 (e.g., approximately the 85th percentile 24-hour storm runoff event);

2) The volume of annual runoff required to achieve 80 percent or more capture, determined in accordance with the methodology set forth in Section 5 of the California Stormwater Quality Association's Stormwater Best Management Practice Handbook, New Development and Redevelopment (2003), using local rainfall data;

B. <u>Flow Hydraulic Design Basis</u> – Treatment measures whose primary mode of action depends on flow capacity:

1) 10 percent of the 50-year peak flowrate;

2) The flow of runoff produced by a rain event equal to at least two times the 85th percentile hourly rainfall intensity for the applicable area, based on historical records of hourly rainfall depths;

3) The flow of runoff resulting from a rain event equal to at least 0.2 inches per hour intensity; or

C. <u>Combination Flow and Volume Design Basis</u> – Treatment measures using a combination of flow and volume capacity sized to treat at least 80 percent of the total runoff over the life of the project, using local rainfall data.

[2] More information about Bay Friendly Landscaping is available on the StopWaste.Org website: http://www.stopwaste.org/home/index.asp?page=8

9. How do the requirements for Regulated Projects apply to redevelopment projects on previously developed sites?

Redevelopment projects on previously developed sites that replace 10,000 square feet or more of existing impervious surface (or 5,000 square feet or more beginning on December 1, 2011, for Special Land Use Categories as explained above in Question 2) are considered Regulated Projects and are subject to C.3 requirements. Even if the project results in the net reduction of the total amount of impervious surface on-site, the project must still comply with Provision C.3 if the project meets or exceeds these thresholds. If a redevelopment project creates or replaces 10,000 square feet or more of existing impervious surface (or 5,000 square feet or more for Special Land Use Categories) and the amount of new and replaced impervious surface equals fifty percent or more of the total amount of previously existing (pre-project) impervious surface, the entire project site (including existing impervious surface) must be included in the design of the stormwater treatment measures. If a redevelopment project creates or replaces 10,000 square feet or more of existing impervious surface (or 5,000 square feet or more for Special Land Use Categories) and the amount of new and replaced impervious surface equals less than fifty percent of the total amount of previously existing (pre-project) impervious surface, only stormwater runoff from the new and replaced impervious surface area must be included in the design of the stormwater treatment measures.

10. What are the new Low Impact Development (LID) requirements?

Since December 1, 2011, only Low Impact Development (LID) treatment measures are allowed for most Regulated Projects. LID treatment measures are rainwater harvesting, infiltration, evapotranspiration, and biotreatment. Rainwater harvesting is the capture of rainwater for outdoor use (typically for landscape irrigation) or indoor use (typically for toilet/urinal flushing or industrial processes). Infiltration is stormwater runoff seepage through soil into the subsurface to mix with groundwater. Evapotranspiration is water evaporating into the air directly or through plants. Biotreatment is stormwater treatment to remove pollutants using biological processes.

Biotreatment is only allowed if rainwater harvesting, infiltration, and evapotranspiration are determined to be infeasible. Before proposing biotreatment, project applicants will need to demonstrate that rainwater harvesting is infeasible. The Stormwater Supplemental Form required with applications for planning and zoning permits/approvals provides guidance on determining feasibility of rainwater harvesting. The Form focuses on the feasibility of rainwater harvesting because infiltration is considered infeasible in Oakland due to local soil types and evapotranspiration occurs in conjunction with the use of vegetated surfaces and biotreatment measures. More information on rainwater harvesting is available on the website of the American Rainwater Catchment Systems Association (ARCSA) (www.arcsa.org).

Non-LID treatment measures include high flow-rate tree well filters and mechanical vault-type media filters. Non-LID treatment measures are only allowed for Special Projects as defined by Provision C.3 (see Question 11 below).

11. What are Special Projects?

Special Projects, as defined by Provision C.3, are certain types of Regulated Projects that support smart growth and high-density, transit-oriented development which can have a beneficial effect on water quality when considered at the watershed scale. If it is infeasible to use 100% LID treatment measures, Special Projects are allowed to treat all or a portion of stormwater runoff with non-LID treatment measures (e.g., high flow-rate tree well filters and mechanical vault-type media filters) depending upon the location and design of the project. The Stormwater Supplemental Form required with applications for planning and zoning permits/approvals provides guidance on identifying Special Projects.

12. What are the hydromodification management requirements for Regulated Projects?

Change in the timing and volume of stormwater runoff from a site is called "hydrograph modification" or "hydromodification." When a site is developed, stormwater runoff flows into creeks at higher rates and volumes, resulting in creek channel erosion, flooding, and habitat loss. Regulated Projects that create or replace one acre or more of impervious surface and are located in an area susceptible to creek bank erosion (as shown on the susceptibility map located on ACCWP's website [www.cleanwaterprogram.org] and attached to the City's Stormwater Supplemental Form) are required to incorporate hydromodification management (HM) measures to retain, detain, or infiltrate stormwater runoff on the site to match the flow and duration of pre-project runoff. Project applicants may use the Bay Area Hydrology Model (www.bayareahydrologymodel.org) to design the HM measures. In certain cases, in-stream measures modifying the receiving creek channel to reduce the potential for erosion and sedimentation may be substituted for on-site HM measures. Regulated Projects on previously developed sites that do not increase the amount of on-site impervious surface are exempt from HM requirements.

Provision C.3 contains an "Impracticability Provision" whereby the HM requirements may be waived if physical conditions prevent a project from meeting the HM requirements for a reasonable cost (defined as two percent of project construction cost), project runoff cannot be directed to a regional HM measure, and in-stream measures are not practicable. The project must still incorporate other applicable post-construction stormwater management measures and must contribute financially to an alternative HM project. Project applicants interested in waiving HM requirements pursuant to the Impracticability Provision should consult with City staff prior to pursuing this option.

13. Which City department will be responsible for reviewing Regulated Projects for C.3 compliance?

During the review of the application for planning and zoning permits/approvals for Regulated Projects, project applicants must show the preliminary type and location of proposed post-construction stormwater management measures on a preliminary post-construction stormwater management plan. During the review of the application for construction-related permits, the Building Services Division will review and approve the detailed designs of the post-construction stormwater management measures. A flow chart showing the process for reviewing Regulated Projects subject to C.3 requirements is included on page 7.

14. Do Regulated Projects require a special permit from the City?

No special permit is required from the Planning and Zoning Division during the planning approval phase. The Building Services Division will require an infrastructure permit ("PZ Permit") for Regulated Projects during the construction permitting phase.

15. Can C.3 requirements for Regulated Projects be waived if a project is unable to meet the requirements?

In accordance with Provision C.3.e, a project applicant may demonstrate alternative compliance with C.3 requirements by treating stormwater runoff at an off-site location or paying an in-lieu fee. Project applicants interested in off-site treatment and/or an in-lieu fee should consult with City staff.

16. What are the project applicant's responsibilities after construction of a Regulated Project?

The property owner is required to enter into an agreement with the City accepting the responsibility for adequate future maintenance of all installed stormwater treatment measures, including privately-sponsored treatment measures installed within the public right-of-way. City staff has prepared a standardized agreement for use with all projects.

17. What are the requirements for projects that are not Regulated Projects?

Pursuant to Provision C.3, beginning December 1, 2012, projects that are not Regulated Projects and create or replace at least 2,500 square feet of new or existing impervious surface (including individual single-family dwellings) are required to incorporate one or more of the following site design measures:

- *Direct roof runoff into cisterns or rain barrels for reuse;*
- *Direct roof runoff onto vegetated areas;*
- *Direct runoff from sidewalks, walkways, and/or patios onto vegetated areas;*
- *Direct runoff from driveways and/or uncovered parking lots onto vegetated areas;*
- *Construct sidewalks, walkways, and/or patios with permeable surfaces; or*
- *Construct bike lanes, driveways, and/or uncovered parking lots with permeable surfaces.*

Project applicants are not required to identify the proposed site design measure(s) on the application materials submitted for the planning and zoning permit/approval. Proposed site design measure(s) are required to be identified on the drawings submitted for construction-related permits.

Provision C.3 encourages, but does not require, all other projects to incorporate appropriate site design measures and source control measures. The City may require stormwater management measures under the City's Creek Protection, Stormwater Management and Discharge Control Ordinance for projects not subject to C.3 requirements.

18. Do C.3 requirements apply to projects under the jurisdiction of the Port of Oakland?

The Port of Oakland is not a member of ACCWP and is therefore not subject to the requirements of the MRP. Please contact the Port of Oakland regarding stormwater management requirements for projects located in areas of the city under the jurisdiction of the Port of Oakland.

19. Are there guidelines for C.3 requirements?

ACCWP has prepared a handbook for project applicants entitled "C.3 Stormwater Technical Guidance" that contains information about C.3 requirements. The City of Oakland recommends that project applicants with projects subject to C.3 requirements refer to this handbook. The handbook is available on ACCWP's website at www.cleanwaterprogram.org. Project applicants should also refer to the City's Stormwater Supplemental Form required with applications for planning and zoning permits/approvals.

PERMIT REVIEW PROCESS FOR REGULATED PROJECTS SUBJECT TO C.3 REQUIREMENTS