**Exhibit A-7.III**

# Water Quality Management Plan (WQMP) Checklist

Updated for South Orange County, September 28, 2017

# Water Quality Management Plan Checklist

The purpose of this checklist is to provide a format for uniform, comprehensive, and well-documented reviews of the Water Quality Management Plans (WQMPs) submitted by project applicants. The completed checklist should be transmitted to the project applicant with the project WQMP. A copy of the completed checklist should be retained with the project planning/permitting file.

City Planning Project Number:

Project Name:

Project Address:

## First Review

 WQMP Received on:

 Review Completed on:

## Second Review

 WQMP Received on:

 Review Completed on:

## Third Review

 WQMP Received on:

 Review Completed on:

Signature of Reviewer: Date:

| WQMP REQUIREMENT | Requirement Satisfied? |
| --- | --- |
| Yes | No | N/A |
| Title Page |  |  |  |
| Name of project |  |  |  |
| Application and/or Tract Number |  |  |  |
| Lot number(s) if site is a portion of a Tract |  |  |  |
| Site address (or addresses) and planning area number |  |  |  |
| Owner/Developer name |  |  |  |
| Owner/Developer address & telephone number |  |  |  |
| Consulting/Engineering firm that prepared WQMP |  |  |  |
| Consulting/Engineering firm address & phone number |  |  |  |
| Date WQMP was prepared/revised |  |  |  |
| Owner’s Certification |  |  |  |
| A signed certification statement, in which the project owner acknowledges and accepts the provisions of the WQMP, follows the title page. |  |  |  |
| Table of Contents |  |  |  |
| A Table of Contents, including a list of all exhibits/figures and attachments is included.  |  |  |  |
| Section 1.0, Discretionary Permit(s) and Water Quality Conditions |  |  |  |
| *Key purpose: Document the conditions placed on the project as part of prior approvals or watershed-based plans.*  |  |  |  |
| Lists the Discretionary Permit(s). |  |  |  |
| The lot & tract/parcel map number describing the subject property. |  |  |  |
| Lists, verbatim, the Water Quality Conditions, including condition requiring preparation of WQMP, if applicable. |  |  |  |
| Provides applicable conditions from watershed-based plans (WQIP). |  |  |  |
| If project is part of a common plan of development where a regional BMP has previously been built which will serve this project, conditions from the previous approval of the facility is included. |  |  |  |
| Final Resolution of Approval, Conditional Use Permit, etc. is included as an Attachment to the WQMP. |  |  |  |
| Section 2.0, Project Description |  |  |  |
| *Key purpose: Describe the attributes of the project in adequate detail to support classification of the project, identification of potential pollutant sources, and other features necessary to provide orientation to stormwater management for the project.*  |  |  |  |
| **Section 2.1 General Description** |  |  |  |
| Does the project legally describe the location, legal boundaries, address, and parcel number in order to fully understand the extents and location of the project? |  |  |  |
| Includes the number of dwelling units or SIC code, as applicable. |  |  |  |
| Identifies planning area or community name. |  |  |  |
| Describes proposed land uses and activities for the project.  |  |  |  |
| Describes all paved areas, including the type of parking areas. |  |  |  |
| Describes all landscaped areas. |  |  |  |
| Describes any off-site improvements. |  |  |  |
| Quantifies the total impervious area added or replaced as part of the project. |  |  |  |
| Describes what makes this project a priority project (based on development type, impervious area added/replaced, etc.). |  |  |  |
| Quantifies the area of the project including pre and post impervious areas to at least the nearest 10th acre |  |  |  |
| **Section 2.2 Post Development Drainage Characteristics** |  |  |  |
| Identifies general drainage characteristics and how/if they will be changed by the development (grading, general direction of flow, inflow/outflow from the site, etc.) |  |  |  |
| **Section 2.3 Property Ownership/Management** |  |  |  |
| Describes ownership of all portions of project and site. * Will any infrastructure transfer to public agencies (City, County, Caltrans, etc.)?
* Will a homeowners or property owners association be formed?
* Will the association be involved in long term maintenance?
 |  |  |  |
| **Section 3.0, Site and Watershed Characterization** |  |  |  |
| **Section 3.1 Site Conditions** |  |  |  |
| *Key purpose: Describe the existing condition of the site in a manner necessary to understand existing topography, environmental resources, conditions related to infiltration feasibility, particularly as these elements relate to formulating the site design and stormwater management approach.*  |  |  |  |
| Is an exhibit included showing the site in the existing condition? |  |  |  |
| Is a narrative included describe the existing condition at the site? |  |  |  |
| Identifies the zoning or land use designation. |  |  |  |
| Identifies known Environmentally Sensitive Areas (ESAs) and Areas of Special Biological Significance (ASBSs) within the vicinity and their proximity to the project. |  |  |  |
| Do the exhibit/narrative describe what fraction of the site is currently developed? |  |  |  |
| Do the exhibit/narrative describe the slopes, the range of elevations, terrain type, and existing drainage patterns on the site on and around the site? |  |  |  |
| Do the exhibit/narrative describe any upstream flows draining to the site or state that no upstream flows drain to the site? |  |  |  |
| Do the exhibit/narrative describe all existing infrastructure and determine which will remain in place after development including roads, utilities, and drainage infrastructure? |  |  |  |
| Do the exhibit/narrative describe existing land uses/land cover at the site with area and impervious area breakdown for all land uses on the site? (Total area should equal to the site area from Section 2). |  |  |  |
| Does this section describe the hydrogeologic characteristics on and around the site with sufficient detail to assess the feasibility of infiltration at the site? (If other factors, such as geotechnical constraints, are sufficient to show that infiltration is infeasible, then this information is not required).* Map and/or description of areas of the site with high groundwater
* Map and/or description of aquifers near or underlying the site and all existing wells (with documentation of consultation with groundwater management agency, if applicable)
* Map and/or description of groundwater contamination plumes on or near the site
* Map and/or description of proposed heavy industrial land uses or other pollutant generating activities which could threaten groundwater quality
* Map and/or description of groundwater/surface interactions and the areas affected by them on or near the site
 |  |  |  |
| Does this section describe the soil and geologic conditions on and around the site with sufficient detail to assess the feasibility of infiltration at the site? (If other factors, such as geotechnical constraints, are sufficient to show that infiltration is infeasible, then this information is not required).* For a Conceptual WQMP, are soil maps, boring logs, and other available information about soils and geology that affect infiltration
* For a Final WQMP, if any DMA is categorized as Full Infiltration, infiltration tests in the proposed BMP locations are included
 |  |  |  |
| Does this section describe the geotechnical conditions on and around the site with sufficient detail to assess the feasibility of infiltration at the site? (If other factors, such as hydrogeologic constraints, are sufficient to show that infiltration is infeasible, then this information is not required).* Map and/or description of areas of collapsible soils, steep (>15% slopes), expansive soils, and liquefaction potential.
 |  |  |  |
| Are site conditions summarized related to infiltration feasibility as it relates to the conditions present on the existing site? |  |  |  |
| **Section 3.2 Proposed Site Development Activities** |  |  |  |
| *Key purpose: Describe features of the proposed project relevant to defining pollutant sources, drainage pathways, and factors influencing the feasibility of infiltration or harvest and use. Provides necessary background for BMP placement and selection.*  |  |  |  |
| Does the project description completely and accurately describe where facilities will be located, what activities will be conducted and where on the site, what kinds of materials and products will be used, how and where materials will be received and stored, and what kinds of wastes will be generated?  |  |  |  |
| Identifies post development drainage characteristics and how existing environmentally sensitive drainage features were preserved |  |  |  |
| Map/description of post-development topography and grading |  |  |  |
| Locations of run-on to the site and discharge locations for runoff from the site in the proposed condition |  |  |  |
| Summary of the areas of each land use on the site in the proposed development including imperviousness of each land use. |  |  |  |
| **For Commercial and Industrial Projects:** |  |  |  |
| * Provides Standard Industrial Classification (SIC) Code which best describes the facilities operations?
 |  |  |  |
| * Describes the type of use (or uses) for each building or tenant space
 |  |  |  |
| * Does project include food preparation, cooking, and eating areas (specify location and type of area)
 |  |  |  |
| * Describes delivery areas and loading docks (specify location and design and if below grade and types of materials expected to be stored
 |  |  |  |
| * Describes outdoor materials storage areas (describe and depict location(s), specify type(s) of materials expected to be stored)
 |  |  |  |
| * Describes activities that will be routinely conducted outdoors
 |  |  |  |
| * Describes any activities associated with equipment or vehicle maintenance and repair, including washing or cleaning. Indicates number of service bays or number of fueling islands/fuel pumps, if applicable.
 |  |  |  |
| **Residential Projects** |  |  |  |
| * Range of lot and home sizes;
 |  |  |  |
| * Describes all community facilities such as, laundry, car wash, swimming pools, jacuzzi, parks, open spaces, tot lots, etc.
 |  |  |  |
| **Section 3.3 Receiving Waterbodies** |  |  |  |
| *Key purpose: Determine where water drains to support establishment of pollutants of concern and hydrologic conditions of concern.*  |  |  |  |
| Includes a map showing the where the site discharges to the receiving waterbody or waterbodies and how the runoff from the site flows from the site to the receiving waterbody. |  |  |  |
| Identifies the watershed in which the project is located and the :* downstream receiving waters
* known water quality impairments as included in the 303(d) List
* applicable Total Maximum Daily Loads (TMDLs)
* Known environmentally sensitive areas downstream of the site and their distance downstream
 |  |  |  |
| **Section 3.4 Stormwater Pollutants of Concern** |  |  |  |
| *Key purpose: Determine the pollutants or conditions that BMPs need to be selected and designed to address.*  |  |  |  |
| Lists all pollutants from the following:* Expected pollutants generated on the site
* Pollutants for which downstream waterbodies are impaired
* Priority pollutants from the WQIP or other Water Quality Condition
 |  |  |  |
| Correctly assigns all Primary Pollutants of Concern and Other Pollutants of Concern based on the above categories |  |  |  |
| **Section 3.5 Hydrologic Conditions of Concern** |  |  |  |
| *Key purpose: Determine whether hydromodification control criteria apply.*  |  |  |  |
| Includes a map or maps showing the discharge location(s) from the site and all receiving storm drains and waterbodies from the site to the ocean or lake, with the following information, as applicable:* Labels each reach of all downstream waterbodies with the protection type and whether or not they are susceptible to hydromodification
* Labels areas identified in the WMAA as exempt from hydromodification requirements
* Identifies critical sediment yield areas on the site
 |  |  |  |
| Identifies if a Hydrologic Condition of Concern exists for the project and provides a narrative explaining why or why not |  |  |  |
| Section 3.6 Critical Coarse Sediment Yield Areas |  |  |  |
| *Key purpose: Determine whether there is critical coarse sediment on or above the site that needs to be considered in hydromodification management.*  |  |  |  |
| Identifies whether potential critical coarse sediment yield areas are present on the site |  |  |  |
| Provides documentation of whether these are actual critical coarse sediment yield areas |  |  |  |
| **Section 4.0, Site Plan and Drainage Plan** |  |  |  |
| ***Key purposes:*** * ***Describe the design of the site from a functional hydrologic/drainage perspective.***
* ***Document that all applicable site design BMPs have been incorporated.***
* ***Demonstrate that the site has been designed and BMPs sited to maximize potential for infiltration and harvest and use***
* ***Provide the DMA framework for subsequent BMP sizing.***
* ***Document that all applicable source control BMPs have been incorporated.***
 |  |  |  |
| **Section 4.1 Drainage Management Area Delineation** |  |  |  |
| Includes a drainage map showing:* All DMAs
* Structural BMP locations
* Site Design BMPs incorporated
* Locations of infiltration rate tests, if applicable
* Areas poorly suited for infiltration and areas best suited for infiltration, as applicable
* Areas of potential pollutant generation
* Impervious and pervious areas
* Sensitive environmental features and protections, as applicable
 |  |  |  |
| Describes how the site was divided into DMAs and how BMP placement was selected. |  |  |  |
| Describes how BMPs were placed in order to attempt to maximize the feasibility of infiltration and avoid obstacles to infiltration. Provides technically-defensible explanations of BMP siting. |  |  |  |
| Describes site investigations conducted to support placement of BMPs; references relevant site investigation studies/reports, as needed, to support findings. |  |  |  |
| Site investigation report/studies relevant to feasibility determinations are included with the WQMP submittal or are otherwise made available to the reviewer. |  |  |  |
| Section 4.2 Overall Site Design BMPs |  |  |  |
| Describes how site design BMPs were incorporated into the overall layout and design of the site.  |  |  |  |
| If a site design BMP was not used, explains why it was not applicable |  |  |  |
| **Section 4.3 Drainage Management Area Characteristics and Site Design BMPs** |  |  |  |
| Describes each DMA including:* Location on the site
* Area (impervious and pervious)
* Significant topographic features and drainage patterns
* Location of outlet/structural BMP
* Land uses and pollutant-generating activities in the site
 |  |  |  |
| Includes narrative describing how site design concepts were considered and incorporated into project plans for each DMA. |  |  |  |
| Describes how the DMA drainage patterns and BMP placement were designed to maximize the feasibility of infiltration |  |  |  |
| Assigns each DMA to one of the three infiltration feasibility categories and provides the worksheet(s) and rationale for the assignment |  |  |  |
| If a DMA is not assigned to Full infiltration, provides calculations for harvested stormwater demand and if it is required, or else justifies why it is not required (e.g. no or little landscaping). |  |  |  |
| Includes a summary table of all DMAs showing their area, imperviousness, and infiltration feasibility category |  |  |  |
| **Section 4.4 Source Control BMPs** |  |  |  |
| Lists and describes all Routine Source Control BMPs (Non-structural and Structural). For any not included, a reasonable justification for why it is not applicable is provided. |  |  |  |
| O&M Plan (final WQMPs only) describes responsibility for inspection and upkeep of source control BMPs |  |  |  |
| Exhibits identify specific placement and details of structural source control BMPs |  |  |  |
| **Section 5.0, Low Impact Development BMPs** |  |  |  |
| ***Key purposes:*** * ***Document that LID BMPs were selected consistent with infiltration feasibility information and applicable considerations.***
* ***Document that HSCs and LID BMPs meet applicable criteria for LID sizing and design.***
 |  |  |  |
| Includes a section for each LID BMP for each DMA |  |  |  |
| Lists and describes all hydrologic source controls implemented in the DMA |  |  |  |
| Describes the credit taken towards DCV retention for the HSCs and includes calculations and worksheets, as needed. |  |  |  |
| For any applicable hydrologic source controls not included, justifies not including them by describing how retention will be maximized in the structural LID BMP |  |  |  |
| States whether the DMA is self-retaining after credit from the hydrologic source controls |  |  |  |
| Selects an appropriate BMP type based on the infiltration feasibility (and harvest and use requirement) and the pollutants of concern for the project and justifies the selection with appropriate rationale. If the DMA is self-retaining due to HSCs, justifies this with comparison of HSC retention to the DCV and states that no structural BMPs are needed. |  |  |  |
| If space constraints are used to justify using a BMP type from a different category than the DMA infiltration feasibility, documents this with appropriate, reasonable rationale. Describes why space constraints could not be mitigated in the site design. |  |  |  |
| If multiple BMPs are provided in series, describes each BMP in the series and how it is appropriate for the infiltration feasibility category and pollutants of concern. |  |  |  |
| Describes the applicable sizing criteria for the LID BMP and the sizing methodology used |  |  |  |
| Includes the appropriate calculations and worksheets to size the BMP including retention components, biofiltration components, target minimum footprints, and space constraints, as applicable |  |  |  |
| Describes how the BMP size meets the applicable criteria and provides justification for any space constraints used to justify a smaller size |  |  |  |
| For Conceptual WQMPs, a conceptual schematic design of the BMP is provided |  |  |  |
| For Final WQMPs, design drawings of the BMP are provided with sufficient detail to verify compliance with all required design features and criteria. |  |  |  |
| Describes any contingencies built into the BMP in case of inadequate infiltration to avoid failure. |  |  |  |
| **Section 6.0, Hydromodification BMPs** |  |  |  |
| ***Key purposes:*** * ***Document that hydromodification analysis is conducted consistent with applicable criteria and technical guidance***
* ***Document that critical coarse sediment is avoided***
* ***Document that hydromodification BMPs are sized and designed to conform to applicable criteria and not interfere with treatment functions (if integrated design)***
 |  |  |  |
| **Section 6.1 Point(s) of Compliance** |  |  |  |
| Map is included showing all points of compliance, appropriately located |  |  |  |
| Description of each point of compliance is provided with short rationale for why the selected location is the point of compliance |  |  |  |
| **Section 6.2 Pre-Development (Natural) Conditions** |  |  |  |
| Map and narrative showing and describing the site in the pre-developed (natural) condition with sufficient detail to construct a hydrologic model of the site in the pre-existing condition. |  |  |  |
| **Section 6.3 Post-Development Conditions** |  |  |  |
| Map and narrative showing and describing the site in the proposed developed condition with sufficient detail to construct a hydrologic model of the site in the developed condition. |  |  |  |
| Description and location of all proposed hydromodification BMPs. Describes if hydromodification BMP will be separate from LID BMPs or incorporated into LID BMPs. If it is the latter, describes how adjustments to BMP design for hydromodification will not interfere with the ability of the BMP to remove pollutants from stormwater. |  |  |  |
| For a Conceptual WQMP, includes conceptual schematic drawings of all hydromodification BMPs. For a Final WQMP, includes design drawings of all hydromodification BMPs. |  |  |  |
| Describes all actions taken to preserve or mitigate impacts to critical coarse sediment yield areas on the site |  |  |  |
| **Section 6.4 Hydrologic Modeling and Hydromodification Compliance** |  |  |  |
| Description of the SOHM development of the site in both the pre-development and post-development conditions. Describes all necessary inputs into the model and how they were selected, what factors differed between the pre-developed and post-developed models. |  |  |  |
| Includes tabular and/or graphical representation of the flow duration curves in the pre-developed and post-developed conditions from the model between 10% of the 2-year runoff rate and the 10-year runoff rate. |  |  |  |
| At no point on the flow duration curves does the post-developed curve exceed the pre-developed by more than 10% |  |  |  |
| In the Final WQMP, model input and output files attached to the WQMP |  |  |  |
| **Section 7.0, Educational Materials Index** |  |  |  |
| List of educational materials includes all applicable from Orange County website, and any needed project-specific materials needed based on the proposed source controls. |  |  |  |
| **Attachments** |  |  |  |
| **Educational Materials (Final WQMP only)** |  |  |  |
| All materials listed in Section 7.0 are included in this attachment |  |  |  |
| **Operations and Maintenance Plan (Final WQMP only)** |  |  |  |
| Identifies the entity (or entities) responsible for the long-term inspection and maintenance of all structural BMPs including name, title, company, address, and phone number. |  |  |  |
| If ownership of structural BMPs will be transferred to a public agency, does the WQMP include an attachment indicating the public agency’s intent to accept the structural BMPs as designed?  |  |  |  |
| Is an appropriate mechanism for the long-term operation and maintenance of BMPs, including funding, in place?  |  |  |  |
| Describes all training and qualification requirements for maintenance personnel |  |  |  |
| Includes and describes all structural BMPs on the site including diagrams, design drawing/schematics, location, and access locations |  |  |  |
| Includes all maintenance activities from the relevant BMP fact sheets for each BMP along with their associated frequency plus any other needed maintenance activities based on site-specific considerations or deviations in BMP design from the fact sheets. |  |  |  |
| Describes the minimum frequency for inspection and triggers for “as-needed” maintenance tasks from the BMP fact sheets |  |  |  |
| Describes any unusual, excessively costly, or hazardous O&M activities required for the proposed BMPs |  |  |  |
| Description of the expected useful life of BMP components and expected rehabilitation activities, triggers for these activities, and the planning/approval/documentation process required to conduct the rehabilitation |  |  |  |
| Triggers for detecting unforeseen restoration or repair activities resulting from damage, unusual wear, unforeseen conditions, etc. |  |  |  |
| Hazardous materials spill response and notification requirements |  |  |  |

# WQMP REVIEW SUMMARY

**The following is a summary of major concerns relative to this WQMP submittal:**