

**EXHIBIT B-7.I**



**NEW DEVELOPMENT/SIGNIFICANT REDEVELOPMENT**

**NEW DEVELOPMENT/SIGNIFICANT REDEVELOPMENT  
PROGRAM MANAGEMENT**

# New Development/ Redevelopment

## Module B-7.I

**Audience: Planning and Building  
Department Managers, Stormwater  
Program Managers**  
**Time: 4 hours**





# New Development/ Redevelopment Program Management

Name  
Affiliation  
Location  
Date



# Introduction



*Introduction*

# Water Resources are Crucial to Orange County



Water provides recreation for Orange County residents.

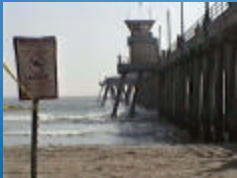


It attracts tourists, boosting the local economy.

It is home to many types of wildlife.

*Introduction*

# Potential Impacts



- Urban runoff and stormwater pollution can impact the ocean, beaches and creeks, harming wildlife and impairing peoples' ability to enjoy the water.

*Introduction*

# Sources of Pollution


- Homes
- Businesses
- Construction sites
- Municipal facilities



Introduction

## Path of Pollutants

- Potential pollutants may run off driveways, streets and gutters into stormdrains.
- The stormdrains lead to creeks and rivers, where pollutants can flow untreated into the ocean.




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Introduction

## It's Everyone's Responsibility

- Urban runoff and stormwater pollution is not just a coastal issue-it starts in all regions of the community and affects water quality from the mountains to the ocean.



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Introduction

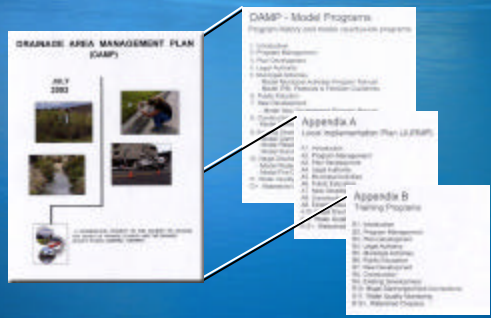
## It's Your Responsibility

- Everyone must help to reduce urban runoff and stormwater pollution.
- This training will help explain what you can do while managing new development/re-development activities to help implement the Orange County Stormwater Program.

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Introduction

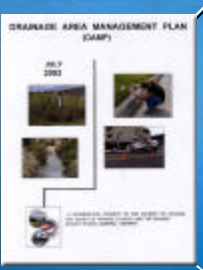
## OC Stormwater Program



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Introduction

## Program Elements



**DAMP - Model Programs**  
Program history and model countywide programs

1. Introduction
2. Program Management
3. Plan Development
4. Legal Authority
5. Municipal Activities
6. Public Education
7. **New Development**
8. Construction
9. Existing Development
10. Illegal Discharges/Illicit Connections
11. Water Quality Monitoring - SDR/ SAR
12. Watershed Chapters

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Introduction

## Training Outline

- General Plan Assessment/Amendment
- Environmental Review Process Revisions
- Development Project Review, Approval, and Permitting Process
  - WQMP Preparation
- Post Construction BMP Inspection and Verification
- Training and Outreach
- Program Effectiveness Assessment

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*Introduction*

## Training Modules

Program Management	Project Planning and Design: Environmental Review, Planning and Permitting, and WQMP Development
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*Introduction*

## Training Goals

- Increase understanding of the New Development/Redevelopment Program
- Support compliance with Santa Ana and San Diego Regional Board municipal stormwater permits
- Ensure effective and consistent program implementation

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*Introduction*

## Overall Approach

**Pollution Prevention**

**Source Control**

**Treatment**

**Cleaner Water**

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*Introduction*

## Key Terms

- Best Management Practice (BMP)
- Water Quality Management Plan (WQMP)
- New Development
- Significant Redevelopment

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*Introduction*

## Regional Board Boundaries within Orange County

Region	Watershed	Identifier
Region 8 Santa Ana	CoyoteCreek	A
	Carbon Canyon	B
	Westminster	C
	Talbert	D
	Santa Ana River	E
	San Diego Creek	F
	Newport Bay	G
	Los Trancos / Muddy Creek	H
Region 9 San Diego	Laguna Canyon	I
	Aliso Creek	J
	Salt Creek	K
	San Juan Creek	L
	Prima Deshecha & Segunda Deshecha	M

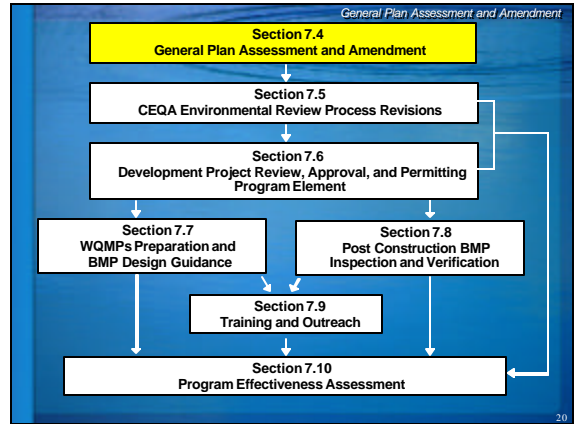
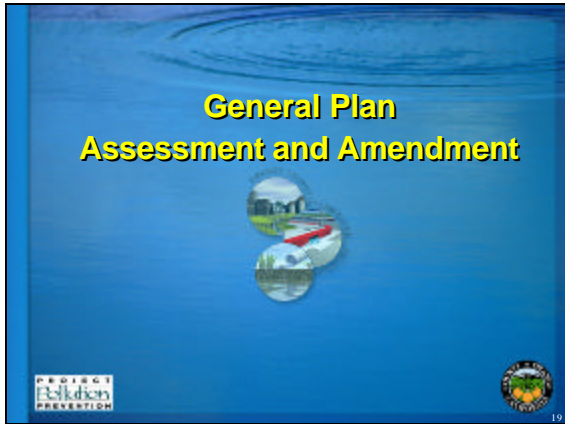
The Watersheds of Orange County

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## Questions ?

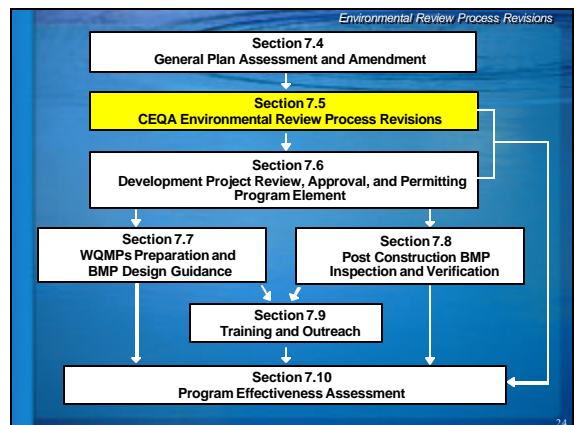
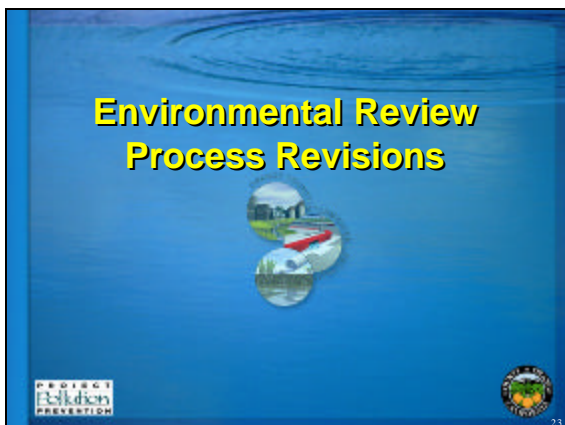
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- General Plan Assessment and Amendment*
- ### General Plan Assessment and Amendment
- Assess General Plan Elements (and Local Coastal Plan if a coastal city) for inclusion of stormwater quality protection principles
  - Consider Amendment, if determined necessary.
  - Consider optional Amendment text

- General Plan Assessment and Amendment*
- ### Option for General Plan Amendment Text
- **New Policy:**
    - Ensure new development incorporates measures, to the maximum extent practicable, that reduce the quantity of storm flow and the discharge of pollutants in urban/stormwater runoff to protect water quality, biological habitats, and recreational uses of downstream receiving waters.
  - **Policy Implementation:**
    - Future land development/redevelopment must adhere to the design standards set forth in the Drainage Area Management Plan (DAMP) and the city-specific Local Implementation Plan.



Environmental Review Process Revisions

## Environmental Review Process Revisions

- Revised Project Application Form
- Revised California Environmental Quality Act (CEQA) Initial Study Checklist
- Environmental Review Guidance

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Environmental Review Process Revisions

## Project Application Form

- Two new line items requesting:
  - Existing and proposed acreage of impervious surface coverage (including all paved areas and building/structure footprints)
  - Submittal of preliminary Water Quality Management Plan (WQMP), if applicable, for large-scale new developments

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Environmental Review Process Revisions

## Project Application Form

**12. Existing and proposed impervious surface coverage:** (Impervious surface coverage includes all paved areas and building and/or structure footprints)

**13. Attach project plans** including preliminary grading plans, drainage plans, Water Quality Management Plans (WQMPs) for large-scale developments, construction site Best Management Practices (BMPs) Plans.

12. Number of hours of construction: \_\_\_\_\_

13. Amount of self-storage/parking: \_\_\_\_\_

14. Existing and proposed impervious surface coverage: \_\_\_\_\_  
(Impervious surface coverage includes all paved areas and building and/or structure footprints.)

15. Attach project plans including preliminary grading plans, drainage plans, Water Quality Management Plans (WQMPs) for large-scale developments, construction site Best Management Practices (BMPs) Plans.

16. Proposed Scheduling of Project: \_\_\_\_\_

17. Associated Projects: \_\_\_\_\_

18. Anticipated Incremental Development: \_\_\_\_\_

19. If this is a residential project, indicate the number of units, schedule of sales, range of sales prices or rents, and overall density: \_\_\_\_\_

20. If this is a commercial project, indicate the type of project, whether neighborhood, city or regional, estimated square footage of sales use, gross building area and loading facilities: \_\_\_\_\_

21. If this is an industrial project, indicate the type of project, estimated employment per shift, and loading facilities: \_\_\_\_\_

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Environmental Review Process Revisions

## Revised CEQA Initial Study Checklist

- Questions about stormwater quality effects added to Hydrology/Water Quality Section of checklist, as extracted from the municipal stormwater permits.
- Slight variations between Santa Ana Region and San Diego Region

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Environmental Review Process Revisions

## Revised CEQA Checklist (Santa Ana Region)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
k) Potentially impact stormwater runoff from construction activities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l) Potentially impact stormwater runoff from post-construction activities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m) Result in a potential for discharge of stormwater pollutants from areas of material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas, loading docks or other outdoor work areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
n) Result in the potential for discharge of stormwater to affect the beneficial uses of the receiving waters?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
o) Create the potential for significant changes in the flow velocity or volume of stormwater runoff to cause environmental harm?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Create significant increases in erosion of the project site or surrounding areas?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Environmental Review Process Revisions

## Revised CEQA Checklist (San Diego Region)

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
h) Result in an increase in pollutant discharge to receiving waters? Consider water quality parameters such as temperature, dissolved oxygen, turbidity, and other typical storm water pollutants (e.g. heavy metals, petroleum, pesticides, herbicides, synthetic organics, sediment, nutrients, oxygen-demanding substances, and trash).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) Does a significant alteration of receiving water quality during or following construction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reduction in recreational resources, aesthetics and associated resources/uses?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Create a significant adverse environmental impact to drainage patterns due to changes in runoff flow paths or volumes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Result in increased erosion/deposition?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Result in an adverse impact on water quality based on the Clean Water Act Section 303(d) "P" or List 2 (a) or an increase in pollutants for which the water body is already impaired?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Result in other environmentally sensitive areas? If so, can it be avoided, already existing sensitive conditions?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Have a potentially significant adverse impact on surface water quality to other marine, beach, or wetland waters?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Have a potentially significant adverse impact on groundwater quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Cause or contribute to an increase of applicable surface or groundwater receiving water quality objectives or degradation of beneficial uses?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Impact seismic, seismic or seismically induced?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Environmental Review Process Revisions

## Impacts of Treatment Control BMPs?

- Concern about potential odors and vectors generated by standing water
- Adherence to long-term BMP maintenance plan should minimize potential impacts
- Consider when evaluating regional stormwater quality control projects and large-scale development projects that include treatment BMPs
- Question about effects of treatment control BMPs may be added to CEQA Checklist (Hazardous Materials Section or Utilities and Service Systems Section)

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Environmental Review Process Revisions

## Environmental Review Guidance

- Objectives:
  - For completing CEQA Initial Study Checklist
  - For reviewing and preparing CEQA compliance documents

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Environmental Review Process Revisions

## Six-Step Environmental Review Guidance

- Step 1: Consider project characteristics
- Step 2: Identify receiving waters
- Step 3: Determine sensitivity of receiving waters
- Step 4: Characterize potential water quality impacts
- Step 5: Identify hydrologic conditions of concern
- Step 6: Assess project impact significance to water quality

**Plus Additional Considerations for EIRs**

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Environmental Review Process Revisions

## Additional Consideration for EIRs

- Additional BMPs beyond MEP standard could, in some cases, be needed to reduce impacts to less than significant under CEQA, and/or meet other resource agency requirements
- Thresholds of Significance - use CEQA Checklist questions
- Quantitative Water Quality Analysis - may be needed for large scale projects

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## Questions ?

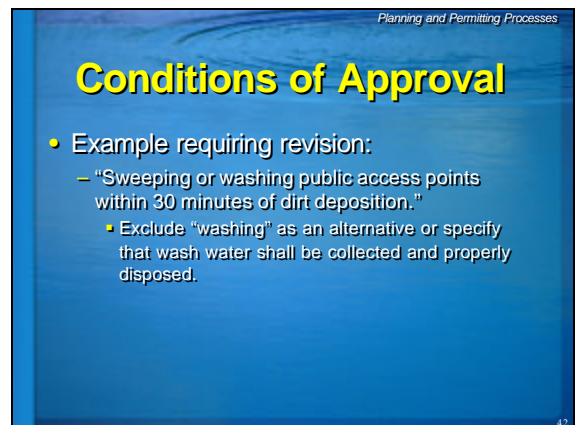
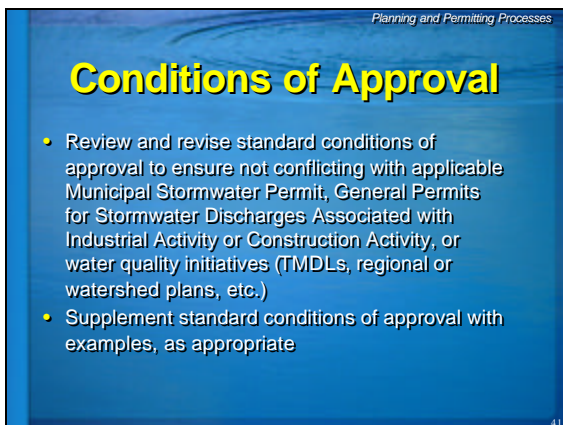
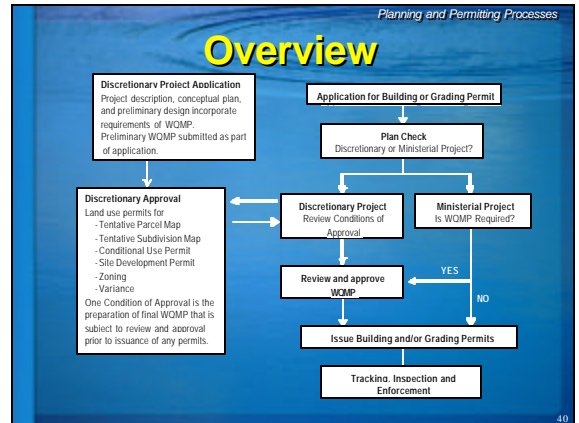
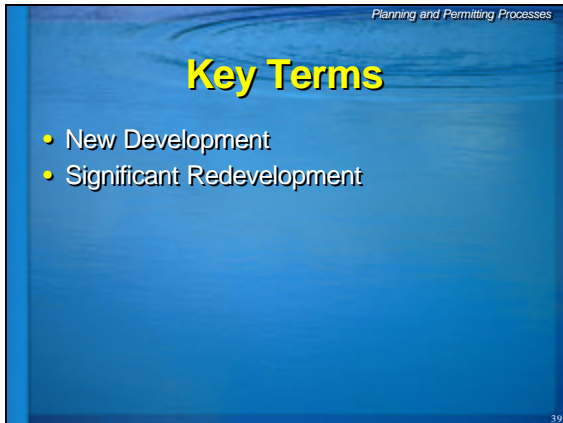
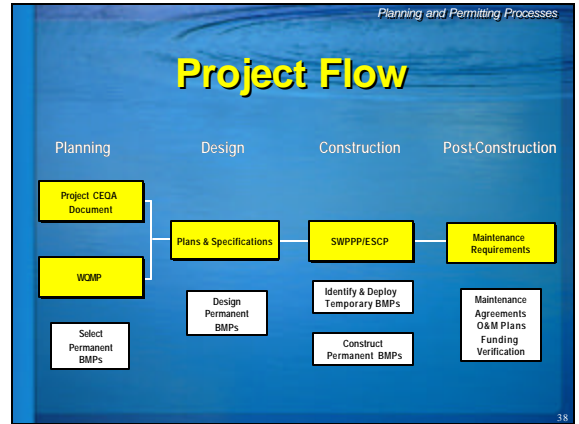
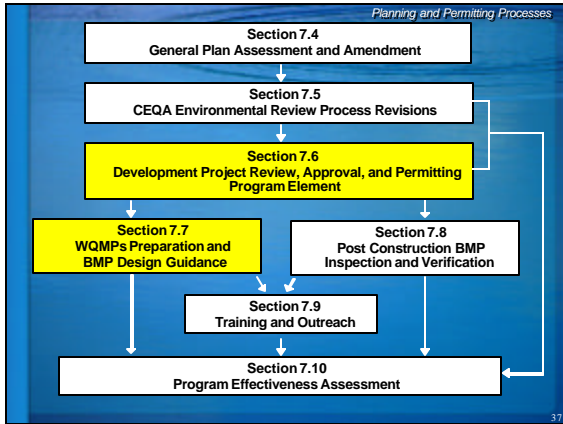
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## Planning and Permitting Processes





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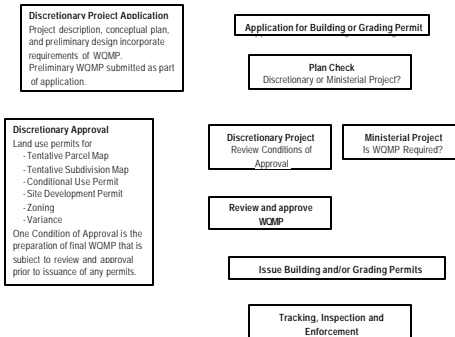
## Conditions of Approval

- Example requiring revision:
  - “Prior to the issuance of preliminary or precise grading permits for any gas station or vehicle service facility, the applicant shall submit from the Regional Water Quality Control Board a copy of a National Pollutant Discharge Elimination System (NPDES) Industrial Permit for ongoing use.”
  - Gas stations and vehicle service facilities are not subject to California’s General Permit for Stormwater Discharges Associated with Industrial Activity.

## Conditions of Approval

- Examples for Consideration:
  - “The discharge of any sediment and construction materials or wastes into a receiving water or storm drain shall be prohibited.”
  - “Applicant shall ensure that all construction contractor and subcontractor personnel are made aware of the required best management practices and good housekeeping measures for the project site and any associated construction lay-down areas.”

## WQMP Review and Approval



## Projects Requiring a WQMP

- WQMPs required for all private sector and public agency new development or significant redevelopment projects that:
  - Qualify as one of the Priority Project Categories listed in the Municipal Stormwater Permits, or
  - Require discretionary action that will include a precise plan of development, or
  - Require issuance of a non-residential plumbing permit

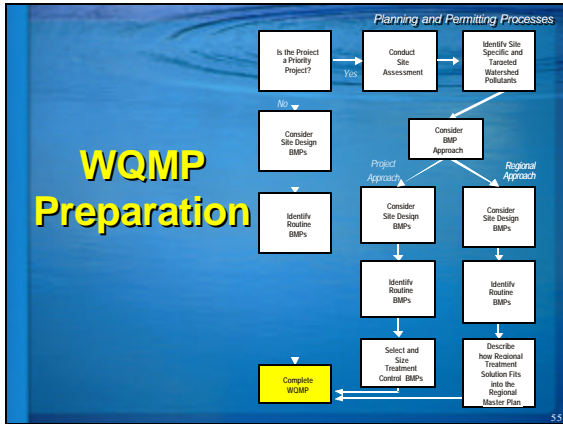
## Priority Projects

- Residential:  $\geq 10$  units
- Commercial/Industrial:  $> 100,000$  sq.ft.
- Automotive repair shops
- Restaurant:  $\geq 5,000$  sq.ft.
- Hillside Development
- Impervious surface  $\geq 2,500$  sq.ft. within, adjacent to, or discharging directly to ESA
- Parking lots:  $\geq 5,000$  sq.ft. or with 15 or more parking spaces
- San Diego Region: streets, roads, highways, freeways creating  $\geq 5,000$  sq.ft. new paved surface

## Requirements for Priority Projects

- Site design BMPs
- Routine structural and non-structural BMPs
- Mechanism for assuring long-term operation and maintenance of structural BMPs
- Treatment control BMPs, including regional/watershed approach





Planning and Permitting Processes

## WQMP Preparation for Priority Projects

- Site assessment
- Identify pollutants of concern for project
- Identify pollutants or conditions of concern for receiving waters
- Consider approach: project-based or regional/watershed
- Consider site design BMPs

Continued... 56

Planning and Permitting Processes

## WQMP Preparation for Priority Projects (Continued)

- Identify Source Control BMPs (non-structural and structural)
- Select and size project's treatment control BMPs or identify regional/watershed approach
- Complete the WQMP

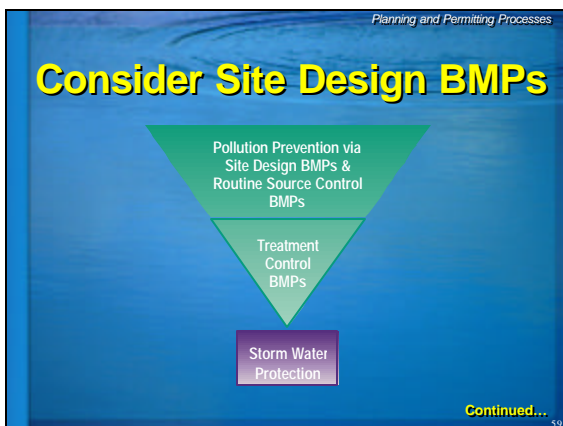
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Planning and Permitting Processes

## Consider BMP Approach

- Project approach
- Regional/watershed approach

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Planning and Permitting Processes

## Consider Site Design BMPs

- Practices designed to minimize or prevent the introduction of pollutants and conditions of concern

Table 7-7. Site Design BMP Techniques
Minimize Impervious Area/Maximize Permeability (C-Factor Reduction)
Minimize Directly Connected Impervious Areas (DCIAs) (C-Factor Reduction)
Create Reduced or "Zero Discharge" Areas (Runoff Volume Reduction)
Conserve Natural Areas (C-Factor Reduction)

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Planning and Permitting Processes

## Identify Routine Source Control BMPs

- Educational programs and site planning practices or structures that are economical, practicable, small-scale measures
- Feasibly applied at smallest unit of development
- Prevents pollution at the source
- Minimizes contact between pollutants and runoff
- Required for all projects

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Planning and Permitting Processes

## Routine Source Control BMPs

- Routine Non-Structural BMPs
  - Education for proper disposal of hazardous or toxic wastes, employee training, proper landscape management, street sweeping, facility maintenance (good housekeeping)
- Routine Structural BMPs
  - Economical, practicable, small-scale design measures or features to reduce exposure of pollutants to runoff or to minimize alteration of a site's natural flow regime

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Planning and Permitting Processes

## Select Treatment Control BMPs

- Select treatment control BMPs to address specific pollutants
  - For planning -level selection use matrix in Model WQMP
  - Compare list of pollutants causing impairments in project's receiving waters and select BMP (or BMPs) with high or medium removal efficiency for those pollutants

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Planning and Permitting Processes

## Categories of Treatment Control BMPs

- Biofilters (vegetated strips or swales)
- Detention basins (dry)
- Infiltration basins
- Wet Ponds or wetlands
- Filtration
- Proprietary devices

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Planning and Permitting Processes

## Utilize Regional/Watershed Approach

- Project approval based upon regional/watershed approach if:
  - Project incorporates all applicable routine source control BMPs
  - Regional program incorporates BMPs sized to treat appropriate volume or flow for all new development within watershed
  - Implementation mechanism identified, including funding, timing, and ability to implement

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Planning and Permitting Processes

## Complete WQMP

Use the WQMP Template to complete and submit a project-specific WQMP for approval

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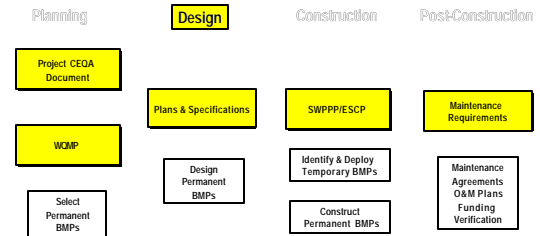
Planning and Permitting Processes

## WQMP Preparation for Non-Priority Projects

- Consider site design BMPs
- Identify Routine Source Control BMPs (non-structural and structural)
- Use applicable portions of WQMP Template to complete and submit a project-specific WQMP for approval

Planning and Permitting Processes

## Project Flow



Planning and Permitting Processes

## Plan Check: Issuance of Grading or Building Permits

- Consider requiring approval of a project's "final" WQMP prior to submitting construction plans for plan check.
- Plan sheets submitted for all grading or building permits must include standard notes for compliance with the minimum requirements applicable to all construction sites.

Planning and Permitting Processes

## Plan Check: Issuance of Grading or Building Permits

### Projects with Land Use Permits

- Review environmental documents, Conditions of Approval, and approved WQMP
- Review construction plans to assure all structural BMPs (including treatment control BMPs) from the approved WQMP have been incorporated
- Review BMP detail design for consistency with BMP design criteria and guidance

Planning and Permitting Processes

## Plan Check: Issuance of Grading or Building Permits

### Projects with By-Right Zoning

- Grading or building permit application includes proposed WQMP and construction plans
- First step is review and approval of the WQMP
- Revision and re-submittal of WQMP and construction plans may be necessary prior to permit issuance

Planning and Permitting Processes

## Plan Check: Standard Notes for All Construction Sites

- Sediment from areas disturbed by construction shall be retained on site using structural drainage controls to the maximum extent practicable.
- Stockpiles of soil shall be properly contained to minimize sediment transport from the site to streets, drainage facilities or adjacent properties via runoff, vehicle tracking, or wind.

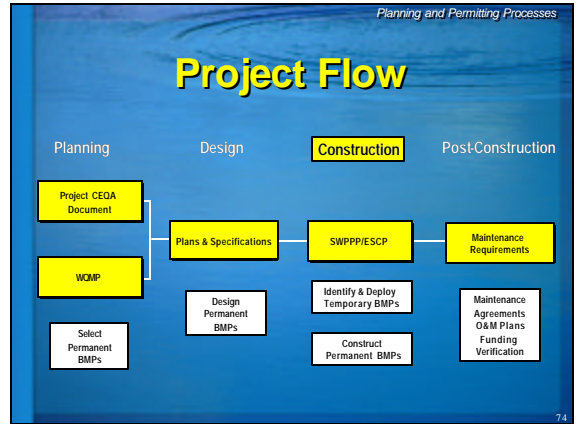
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Planning and Permitting Processes

## Plan Check: Standard Notes for All Construction Sites (Continued)

- Construction-related materials, wastes, spills or residues shall be retained on site to minimize transport from the site to streets, drainage facilities, or adjoining property by wind or runoff.
- Runoff from equipment and vehicle washing shall be contained at construction sites unless treated to remove sediment and other pollutants.

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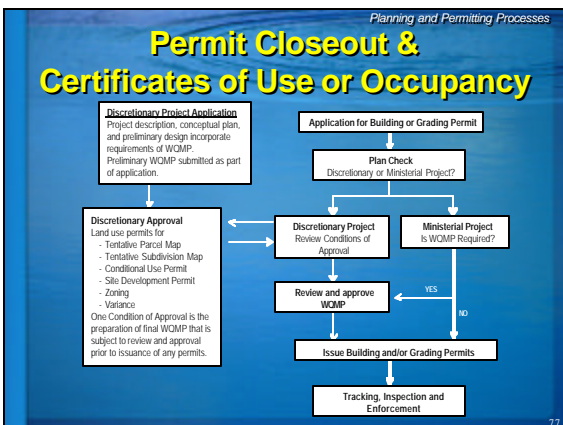
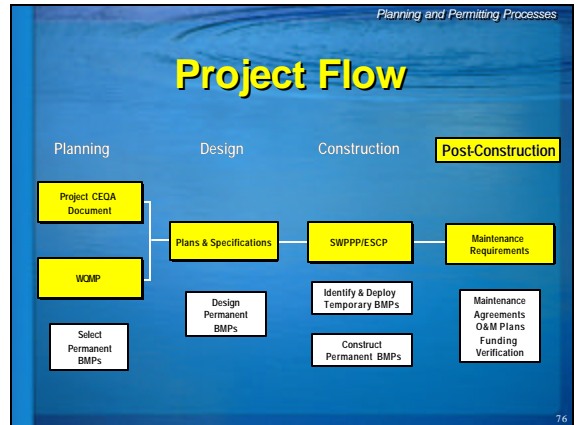


Planning and Permitting Processes

## Construction Phase

- Implement site's temporary BMPs
- Construct and inspect permanent BMPs

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Planning and Permitting Processes

## Permit Closeout & Certificates of Use or Occupancy

Verify that:

- Structural BMPs constructed and/or installed in accordance with plans and specifications
- Operation and Maintenance Plan for structural BMPs has been prepared, reviewed, and approved
- Mechanism or agreement for long-term operation and maintenance of structural BMPs exists

Continued...  
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*Planning and Permitting Processes*

## Permit Closeout & Certificates of Use or Occupancy

(Continued)

- Verify that:
  - Operator is prepared to implement all non-structural BMPs
  - Approved WQMP is available onsite
  - Industrial facilities have obtained coverage under General Industrial Stormwater Permit

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## Post-Construction BMP Inspection & Verification



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*Post-Construction BMP Inspection & Verification*

## Inspection & Verification

- Permittees will verify BMP implementation and proper operation and maintenance.
- Permittees will perform verification for 90% of developments with approved WQMPs.
- Verification of BMP implementation and proper ongoing operation and maintenance via inspection, self-certification, surveys, or other equally effective approaches


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## Questions ?



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## Conclusion



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*Conclusion*

## Conclusions

- Stormwater quality must be considered throughout the planning, permitting and design phases of new development.
- Coordination among planners, engineers and inspectors is necessary to ensure adequate BMP selection, design and implementation.
- It will take time and effort to implement the program effectively.

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Conclusion

## Remember

- Everyone benefits from clean water, and everyone has a responsibility to protect it by reducing urban runoff and stormwater pollution.



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Conclusion

## Resources

For more information:  
Visit [www.ocwatersheds.com](http://www.ocwatersheds.com)  
or  
Call the Orange County Stormwater Program at 714-567-6363.





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Conclusion

## Thank You!

Thank you for attending and learning how you can help!



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Conclusion

## Handouts

- Meeting Agenda
- Hard copy of presentation
- Contact list
- All tables, figures, and other materials referenced can be found in the 2003 Orange County DAMP

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