8.0 CONSTRUCTION

8.1 Introduction

The Permittees regulate construction activities and have responsibility for the construction and reconstruction of municipal facilities and infrastructure. Concern over construction sites as a major source of sediment and other pollutants has meant that construction activity has been a focus of the Permittees' compliance program since the First Term Permits.

8.2 Accomplishments

8.2.1 <u>Model Construction Program</u>

This Model Construction Program was developed and implemented in 2002-03. It requires all construction projects regardless of size to implement an effective combination of erosion and sediment controls and waste and materials management BMPs. It also establishes inspection obligations on the Permittees. Previously, the Permittees' oversight of construction activities was based upon ensuring conformance of public works projects with the *Greenbook Standard Specifications for Public Works Construction*. Specifically, the Model Construction Program requires the Permittees to:

• Inventory construction sites

In May 2002, a construction site inventory spreadsheet was finalized and distributed to the Permittees so that each municipality could develop their inventories by October 15, 2002, as required by Section VIII.1 of the 2002 Santa Ana Permit.

Prioritize construction sites based upon water quality threat

During 2004-05, thirty-four (34) Permittees reported conducting 15,067 construction site inspections comprising 5,504 high priority site inspections, 1,542 medium priority site inspections and 8,021 low priority site inspections.

Prepare BMP Guidance

The Permittees produced and distributed the *Construction Runoff Guidance Manual*.

Conduct Inspections of construction sites

During the Third Term Permits 25,831, 25,549 and 15,067 site inspections were conducted in the 2002-03, 2003-04 and 2004-05 reporting periods respectively.

• Undertake Enforcement

As a result of the 2004-05 inspections, thirty-three (33) Permittees reported the issuance of 445 Educational Letters, 1,052 Notices of Non-compliance, 74 Administrative Compliance Orders, 81 Cease and Desist Orders, and 47 Misdemeanor/Infractions.

Conduct Training

To assist responsible municipal and contract/lease staff in understanding the Construction Program, two training modules have been developed:

- 1) Construction Program Management.
- 2) Inspecting Construction Site BMPs.

In the 2004-05 reporting period Construction Inspection training was provided in two sessions to 167 inspectors.

8.3 Assessment

The current and potential Program effectiveness Assessment Outcome Levels for the current program are summarized in **Table 8.1**.

8.3.1 Model Construction Program

Inventories

The year-to-year status of the Permittees' inventories are not tracked at a Countywide level and consequently this aspect of the model program cannot be assessed.

Prioritization

The Permittees prioritize construction sites based upon a consideration of the size and type of construction, time of construction, location, and site topography. While the numbers of sites of each priority are not tracked at a Countywide level, the year-to-year changes in the level of inspection activity (**Table 8.2**) shows inconsistent reporting between the Permittees.

DAMP Modification:

• Provide definitive construction site prioritization and reporting guidance.

Inspection

The Permittees inspect construction sites to verify that the requirements of the DAMP are being implemented. The inspection frequency is determined by the season ("Wet" or "Dry") and a site's prioritization. The need for follow-up inspections also contributes significantly to the overall level of activity within a reporting period.

Headline Indicator – Inspection Activity: In 2004-05 thirty-four (34) Permittees completed 5,504 high priority, 1,542 medium priority, and 8,021 low priority construction site inspections. In 2003-04, 8,445 high priority, 5,731 medium priority, and 11,363 low priority construction site inspections were completed; and in 2002-03, 4,060 high priority, 15,937 medium priority, and 5,834 low priority construction site inspections were completed (**Table 8.2; Figure 8.1**).



Level 1: Implement Program

While the level of inspection activity is significant (15,000 inspections in the last reporting period) there are disparities between the Permittees which indicates inconsistent reporting. A major component of this activity is re-inspection following a finding of non-compliance. The Permittees believe that the re-inspection obligation is not sufficiently sensitive to the severity of the non-compliance, and RWQCB staff is concerned that the mandated level of follow-up activity may be discouraging findings of non-compliance.

DAMP Modification:

• Clarify inspection frequencies, violation definitions and re-inspection requirements.

Enforcement

Inspectors enforce compliance with the Model Construction Program, grading or building permit, sediment and erosion control plan, and the Water Quality Ordinance. Enforcement steps that may be taken by inspectors include but are not limited to verbal warnings, administrative actions under the Water Quality Ordinance (notice of violation, administrative compliance order, etc.) and written actions under Building/Grading Ordinances (corrective action notice, stop work order, etc.).

Headline Indicator – Extent of Compliance: As a result of the 2004-05 inspections, thirty-three (33) Permittees reported 1,514 construction requiring 1,521 re-inspections compared to 1,066 construction sites requiring 1,072 re-inspections in 2003-04; and 408 construction requiring 542 re-inspections in 2002-03 (**Table 8.3**; **Figure 8.2**).

Level 3: Behavior Change

Headline Indicator – Number and Level of Enforcement Actions: As a result of the 2004-05 inspections, thirty-three (33) Permittees reported taking a total of 1,699 enforcement actions. This compares to 3,475 enforcement actions taken in 2003-04, and 1,395 enforcement actions taken in 2002-03 (Table 8.4; Figure 8.3).

Level 3: Behavior Change

The significant disparities in enforcement activity between the Permittees clearly indicate inconsistent reporting. However, the consistent pattern of a peak of activity in 2003-04 and a subsequent reduction in the 2004-05 reporting period in construction and other stormwater program areas (Existing Development and Illegal Discharges/Illicit Connections) suggests an increased level of compliance within the regulated community.

Training

The Permits require that staff is adequately trained. In response, the Permittees developed two training modules and a guidance manual. However, the training modules need to be updated frequently enough to keep pace with the developments in the field of construction site sediment and erosion control management, and to provide inspectors with a technical understanding of BMPs. In addition, the training of inspectors regarding construction site inspection and oversight has been identified as a particular area of concern for Regional Board staff.

ROWD Commitment:

• Prepare a training schedule including curriculum content and defined expertise and competencies for construction inspectors.

8.4 Summary

The Third Term Permits have required the Permittees to develop and implement a formal inspection program commencing with an initial prioritized inventory of construction sites. Over the first three years of this effort, there has been a clear trend in the level of inspection and enforcement activity that, despite some uncertainties with respect to reporting, suggests increased BMP implementation and compliance with local water quality and grading/building ordinances by the regulated community. Based upon perceived positive outcomes of the Construction elements of the DAMP, the Permittees are proposing minor program modifications based upon the need for the continued training of inspectors and the sensitizing of the prioritization and inspection process toward a more risk-based approach.

Table 8.1: Current and Potential Outcome Levels (Construction)

Construction Program Component	Effectiveness Assessment Outcome Levels											
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6 Receiving Water Quality						
	Implement Program	Increase Awareness	Behavior Change	Load Reduction	Runoff Quality							
Inventory	✓ Maintain inventory											
Prioritization	✓ Assign priorities		P Change in prioritization level									
Inspection	✓ Conduct and Track number of inspections	P Number of re- inspections	P # BMPs implemented	P Load reduction associated with BMPs								
Enforcement/ Reporting	✓ Conduct enforcement		✓ Extent and correction of problem level of enforcement									
Training	✓ Track number/type of training sessions	^P Surveys show improved knowledge										

Key:

^{✓ =} Currently Achieved Outcome Level

P = Potentially Achievable Outcome Level

Table 8.2: Construction Site Inspections Comparison of 2002-03, 2003-04 and 2004-05

	Number of Sites Inspected											
PERMITTEES	HIGH 2002-03	HIGH 2003-04	HIGH 2004-05	MEDIUM 2002-03	MEDIUM 2003-04	MEDIUM 2004-05	LOW 2002-03	LOW 2003-04	LOW 2004-05			
Aliso Viejo	2	3	2	51	51	1	53	0	39			
Anaheim	3	0	0	51	27	48	138	839	850			
Brea	0	4	3	20	10	6	9	8	36			
Buena Park	0	0	2	20	9	15	180	19	590			
Costa Mesa	30	19	15	0	0	0	2,223	5,974	522			
Cypress	1	2	5	0	1	0	7	9	1			
Dana Point*	NA	16	24	NA	4	8	NA	1,077	182			
Fountain Valley	25	5	6	0	0	0	163	353	87			
Fullerton	84	17	1	3	34	0	30	67	10			
Garden Grove	0	9	0	0	0	0	56	17	49			
Huntington Beach	25	3	59	123	66	165	376	422	320			
Irvine	132	67	114	1	41	99	2	63	175			
La Habra	0	0	0	12	1	1	560	353	360			
La Palma	25	0	6	123	0	0	376	5	0			
Laguna Beach	1	1	2	32	47	111	0	0	0			
Laguna Hills	210	183	209	0	0	0	0	0	0			
Laguna Niguel	1	14	34	7	0	0	304	109	1,398			
Laguna Woods	34	7	1	0	0	3	27	4	0			
Lake Forest	4	2	1	21	9	13	18	5	1			
Los Alamitos	0	0	NA	0	1	NA	0	292	NA			
Mission Viejo	1,869	2,570	1,100	2,040	506	495	0	0	0			
Newport Beach	4	3	2	54	23	0	162	270	648			
Orange	3	7	7	20	40	37	563	193	153			
Placentia	0	1	1	3	6	4	8	5	5			
Rancho Santa Margarita	0	0	0	0	2	2	24	0	269			
San Clemente	NA	34	276	NA	120	163	NA	0	0			
San Juan Capistrano	1,304	199	48	12,595	4,674	300	0	0	400			
Santa Ana	0	0	0	73	29	41	63	51	68			
Seal Beach	NA	2	1	NA	0	0	NA	975	1,612			
Stanton	NA	2	4	NA	0	4	NA	0	25			
Tustin	5	6	13	1	7	4	49	56	4			
Villa Park	0	0	0	0	0	0	127	166	175			
Westminster	18	5	5	4	0	0	8	11	22			
Yorba Linda	2	7	10	23	23	22	14	20	20			
County of Orange/OCFCD	278	5,267	3,553	660	**See explanation below	**See explanation below	294	**See explanation below	**See explanation below			
Totals	4,060	8,455	5,504	15,937	5,731	1,542	5,834	11,363	8,021			

NA = Not Available

^{*}includes undetermined amount and different categories

** the database system the County uses to track construction inspections does not differentiate between high, medium, and low priority construction sites; therefore, all sites are classified as "high" priority.

Table 8.3: Inspection Results, Comparison of 2002-03, 2003-04 and 2004-05

	20	02-03	20	03-04	2004-05			
PERMITTEES	Number of Construction Sites Out of Compliance	Number of Re- Inspections Due to Non-Compliance	Number of Construction Sites Out of Compliance	Number of Re- Inspections Due to Non-Compliance	Number of Construction Sites Out of Compliance	Number of Re- Inspections Due to Non-Compliance		
Aliso Viejo	27	27	45	33	21	21		
Anaheim	4	4	55	14	33	48		
Brea	1	1	0	0	2	3		
Buena Park	0	0	5	5	29	15		
Costa Mesa	2	3	NA	NA	0	0		
Cypress	NA	NA	1	1	2	2		
Dana Point	NA	NA	NA	NA	98	105		
Fountain Valley	56	56	43	43	4	4		
Fullerton	8	12	105	105	8	2		
Garden Grove	3	3	4	4	1	1		
Huntington Beach	54	130	23	39	150	54		
Irvine	3	3	33	40	35	35		
La Habra	14	17	18	18	68	81		
La Palma	0	0	0	0	1	2		
Laguna Beach	NA	NA	NA	NA	68	68		
Laguna Hills	2	3	7	8	9	9		
Laguna Niguel	14	26	24	24	23	23		
Laguna Woods	1	1	0	0	6	6		
Lake Forest	2	2	0	0	7	7		
Los Alamitos	0	0	0	0	NA	NA		
Mission Viejo	57	61	67	69	137	139		
Newport Beach	0	0	NA	NA	67	75		
Orange	0	0	7	7	8	8		
Placentia	5	5	5	5	6	6		
Rancho Santa Margarita	0	0	0	0	8	5		
San Clemente	NA	NA	161	161	NA	NA		
San Juan Capistrano	50	50	56	84	49	72		
Santa Ana	13	23	7	7	12	22		
Seal Beach	NA	NA	21	21	NA	NA		
Stanton	NA	NA	0	0	2	8		
Tustin	19	67	0	0	7	40		
Villa Park	0	0	0	0	0	0		
Westminster	1	2	5	10	5	12		
Yorba Linda	7	6	4	4	6	6		
County of Orange/OCFCD	65	40	370	370	642	642		
Totals	408	542	1,066	1,072	1,514	1,521		

NA = Not Available

Table 8.4: Enforcement Action Taken, Comparison of 2002-03, 2003-04 and 2004-05

	FY 2002-03				FY 2003-04				FY 2004-05						
	Administrative Remedies			Criminal Remedies	Administrative Remedies			Criminal Remedies	Administrative Pemedies I			Criminal Remedies			
PERMITTEES	No. of EL/VW	No. of NON	No. of AC	Number of C&D Orders	Misdr, Infrct	No. of EL/VW	No. of NON	No. of AC	Number of C&D Orders	Misdr, Infrct	No. of EL/VW	No. of NON	No. of AC	Number of C&D Orders	Misdr, Infrct
Aliso Viejo	0	0	27	6	0	0	0	32	7	0	0	0	51	43	0
Anaheim	0	0	2	0	0	55	0	0	0	0	6	0	0	0	0
Brea	15	1	0	0	0	0	0	0	0	0	0	1	0	0	0
Buena Park	0	0	0	0	0	0	3	1	1	0	0	63	0	6	0
Costa Mesa	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0
Cypress	0	4	0	0	0	1	10	0	0	0	1	4	0	0	0
Dana Point	2	32	0	0	1	7	36	0	3	0	29	61	3	5	0
Fountain Valley	400	4	21	6	0	27	12	15	9	0	168	0	5	2	0
Fullerton	0	5	1	0	0	51	44	0	5	0	NA	NA	NA	NA	NA
Garden Grove	2	1	0	0	0	3	4	0	0	0	0	1	0	0	0
Huntington Beach	0	16	1	1	0	0	23	1	0	0	0	80	0	0	24
Irvine	0	3	0	0	0	33	0	0	0	0	35	35	0	0	0
La Habra	0	14	0	0	0	0	18	0	0	0	52	7	2	6	0
La Palma	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Laguna Beach	54	14	37	0	1	23	23	29	0	0	24	31	13	0	0
Laguna Hills	0	3	0	0	0	4	3	0	0	0	1	5	0	0	0
Laguna Niguel	0	26	0	0	0	0	24	0	0	0	0	14	0	0	0
Laguna Woods	2	0	0	0	0	0	0	0	0	0	8	8	0	0	0
Lake Forest	NA	NA	NA	NA	NA	0	0	0	0	0	0	2	0	0	0
Los Alamitos	4	0	0	0	0	0	0	0	0	0	NA	NA	NA	NA	NA
Mission Viejo	NA	NA	NA	NA	NA	238	93	0	0	0	0	21	0	0	0
Newport Beach	6	250	200	0	0	558	618	315	0	0	0	2	0	0	1
Orange	0	0	0	0	0	7	7	0	0	0	0	8	0	0	0
Placentia	0	5	0	1	0	0	0	1	0	0	0	1	0	1	0
Rancho Santa Margarita	0	0	0	0	0	0	0	0	0	0	9	5	0	1	0
San Clemente	1	2	0	1	0	142	71	7	33	0	34	20	0	11	21
San Juan Capistrano	50	50	0	0	0	50	6	0	0	0	8	35	0	6	0
Santa Ana	0	13	0	0	0	0	7	0	0	0	0	3	0	0	0
Seal Beach	NA	NA	NA	NA	NA	41	41	0	0	0	0	19	0	0	0
Stanton	NA	NA	NA	NA	NA	0	0	0	0	0	0	0	0	0	0
Tustin	0	19	0	0	0	0	0	0	0	0	0	0	0	0	1
Villa Park	15	0	0	0	0	12	0	0	0	0	0	0	0	0	0
Westminster	0	1	0	0	0	10	0	0	0	0	0	12	0	0	0
Yorba Linda	0	3	0	4	0	327	4	0	0	0	0	6	0	0	0
County of Orange/OCFCD	0	65	0	0	0	5	372	0	0	0	70	607	0	0	0
Totals	554	531	289	19	2	1,597	1,419	401	58	0	445	1,052	74	81	47

NA = Not Available

EL/VW = Educational Letter/Verbal Warning

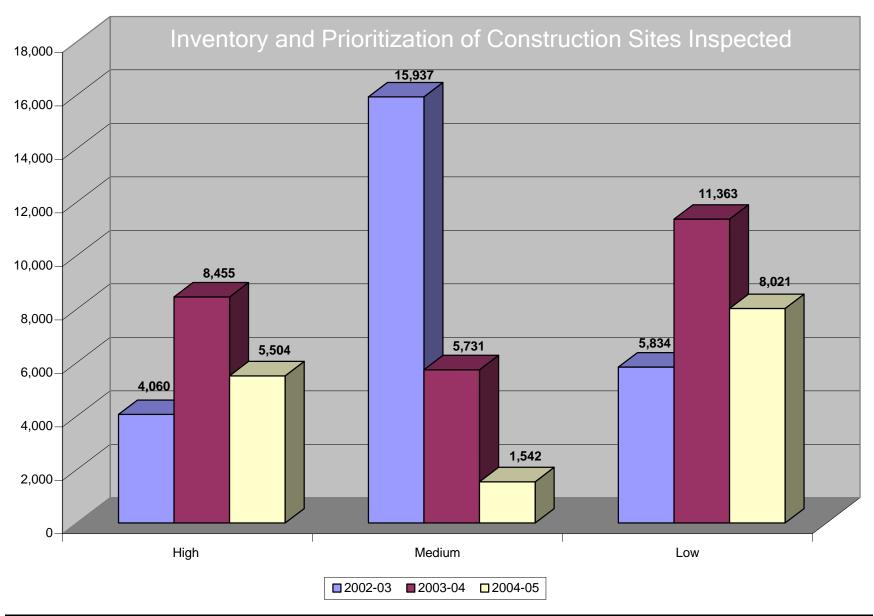
AC = Administrative Compliance Order

Misdr./Infrct = Misdemeanor/Infraction

NON = Notice of Non-Compliance

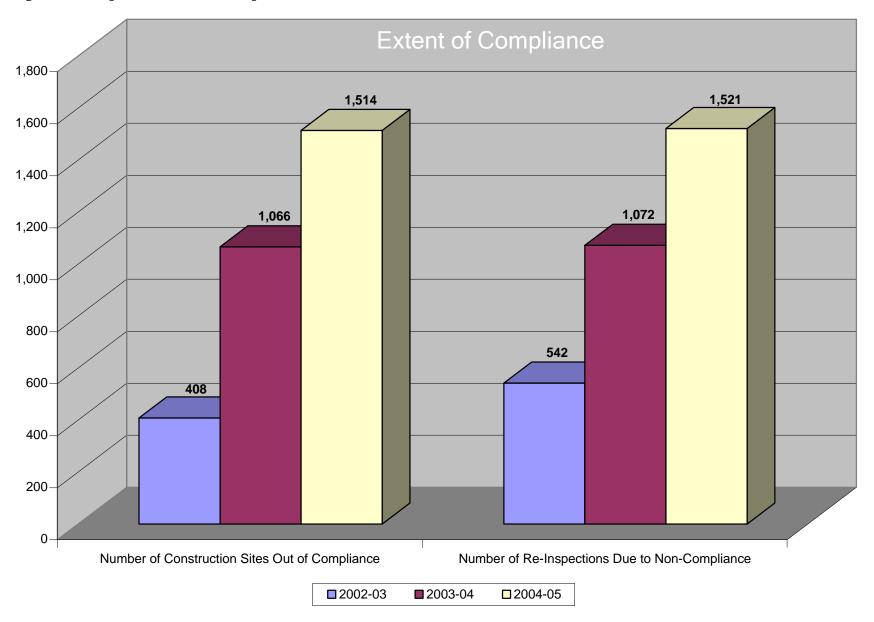
C&D = Cease and Desist

Figure 8.1: Construction Site Inspections Comparison of 2002-03, 2003-04 and 2004-05



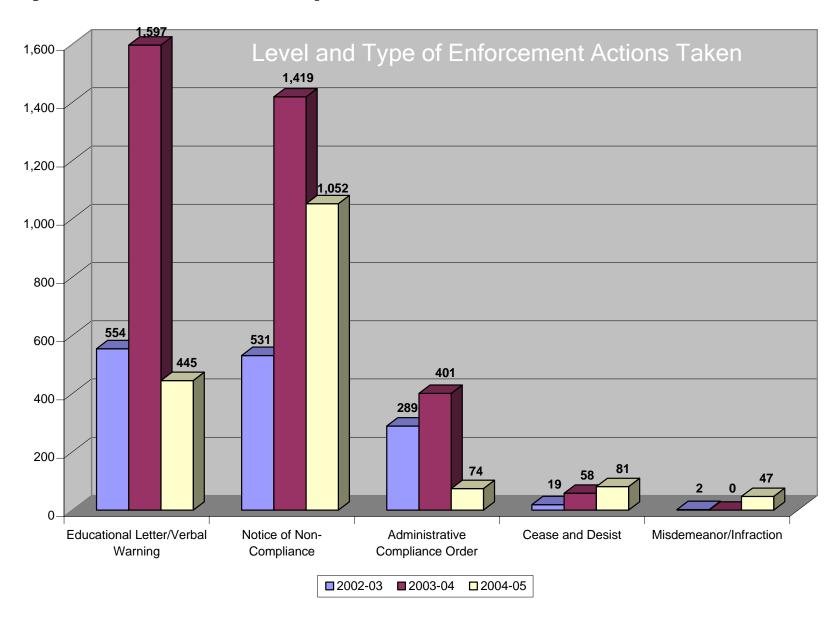
Report of Waste Discharge July 21, 2006

Figure 8.2: Inspection Results, Comparison of 2002-03, 2003-04 and 2004-05



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Figure 8.3: Enforcement Action Taken, Comparison of 2002-03, 2003-04 and 2004-05



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