

**City of Temecula
Municipal Separate Storm Sewer System (MS4)
Inspection Report**

Background

PG Environmental, LLC, a USEPA Region IX contractor, with assistance from the California Regional Water Quality Control Board, San Diego Region (Regional Water Board), conducted inspections of the City of Temecula's Municipal Separate Storm Sewer System (MS4) program on September 20, 2007 and January 15-16, 2008. Mr. Scott Coulson of PG Environmental, LLC led the inspections and was assisted by Regional Water Board staff. Discharges from the City's MS4 are regulated by Regional Water Board Order No. R9-2004-001 (NPDES Permit No. CAS0108766) issued July 14, 2004. The purpose of the inspections was to determine the City of Temecula's (hereafter, City or permittee) compliance with requirements contained within Regional Water Board Order No. R9-2004-001 (hereafter, Order), and to assess the permittee's current implementation status with respect to their Individual Storm Water Management Plan (SWMP). The initial September 20, 2007 inspection identified discrepancies between the Order requirements and the City's MS4 program implementation. The intent of the January 2008 inspections was to further investigate and substantiate the previously noted discrepancies while expanding the assessment to include additional program areas.

The inspections focused specifically on the following sections of the Order: (1) Requirement F. Development Planning and the implementation of Standard Urban Storm Water Mitigation Plan (SUSMP) requirements; (2) Requirement G. Construction; (3) Requirement J. Illicit Discharge Detection and Elimination (IDDE) Program; and (4) Monitoring and Reporting Program No. R9-2004-001, Section II.B., Illicit Discharge Monitoring. The inspector did not evaluate or assess compliance with the following Requirements of the Order: H. Existing Development, I. Education, or K. Watershed-Based Activities. As such, the inspections were not intended to be a comprehensive evaluation of all components and requirements associated with the entire MS4 program.

The primary MS4 Program representative on September 20, 2007 was Mr. Aldo Licitra (Associate Engineer, NPDES). The weather on this day consisted of light rain showers and partly cloudy skies.

The primary MS4 Program representatives for the January 15-16, 2008 inspections were: Mr. Aldo Licitra (Associate Engineer, NPDES); Rudy Shabec (Public Works Inspector, NPDES); and Daniel York (Deputy Director of Public Works and City Engineer). The weather was sunny and dry on both of these days.

The inspection schedule was as follows:

September 20, 2007	January 15, 2008	January 16, 2008
<p><i>City of Temecula</i> 8:30 AM – Inspection kick-off meeting outlining objectives and logistics 9:00 AM – Office discussion/ records review for Illicit Discharge Detection and Elimination Program 10:15 AM – Field visits to various dry weather monitoring sites 11:30 AM – Meeting among inspection team members 12:15 PM – Closing conference and presentation of preliminary findings</p>	<p><i>City of Temecula</i> 9:00 AM – Inspection kick-off meeting outlining objectives and logistics 9:30 AM – Office discussion on Public/Private Construction 10:00 AM – Field visits to Public/Private Construction and SUSMP sites 1:00 PM – Office discussion on SUSMP 2:00 PM – Field visits to SUSMP sites and additional Public/Private Construction sites 5:00 PM – Conclude for the day</p>	<p><i>City of Temecula</i> 9:00 AM – Brief office discussion outlining inspection objectives and logistics 9:30 AM – Office discussion/ records review for IDDE Program 1:00 PM – Additional records review on SUSMP applicability 2:15 PM – Meeting among inspection team members 3:30 PM – Closing conference and presentation of preliminary findings</p>

Findings

Development Planning

Note: The permittee internally refers to the SUSMP program and required documents as Water Quality Management Plans (WQMPs). Hereafter, these terms are used interchangeably.

1. Regional Water Board Order No. R9-2004-001, Requirement F.2.b., defines Priority Development Projects as: “(a) all new development projects, and (b) those redevelopment projects that create, add or replace at least 5,000 square feet of impervious surfaces on an already developed site, that are listed under the project

categories or locations in Requirement F.2.b.(1).” A number of the project categories or locations listed in Requirement F.2.b.(1) specify the use of two categorical thresholds, both 5,000 square feet of impervious surface and the “land area for development.” In contrast, the permittee’s WQMP Initial Checklist dated March 2005 (hereafter, City WQMP Applicability Checklist), only utilizes an impervious surface categorical threshold. For example, the City WQMP Applicability Checklist specifies that the non-residential or commercial development “category includes projects that create more than *100,000 square feet of impervious surface* [emphasis added] (see attached Exhibit 1).” Regional Water Board Order No. R9-2004-001, Requirement F.2.b.(1)(b) defines the commercial development category as “any development on private land that is not for heavy industrial or residential uses *where the land area for development is greater than 100,000 square feet* [emphasis added]” and that creates, adds or replaces at least 5,000 square feet of impervious surfaces. Additional categories where the City WQMP Applicability Checklist specifies an incorrect categorical threshold are: restaurants; and to a lesser extent parking lots; streets, roads, highways, and freeways (see attached Exhibit 1). By using an incorrect categorical threshold, the City may not be capturing all development projects which are applicable to the SUSMP requirements. Pursuant to Regional Water Board Order No. R9-2004-001, Requirement F.2.b., the City must implement a SUSMP to reduce pollutants to the maximum extent practicable (MEP) and to maintain or reduce downstream erosion and protect stream habitat from *all Priority Development Projects* [emphasis added].

2. Regional Water Board Order No. R9-2004-001, Requirement F.2.b.(2)(d), requires that WQMP BMPs “be effective at removing or treating the pollutants of concern associated with the project.” Pursuant to this requirement, the Riverside County Water Quality Management Plan for Urban Runoff dated September 17, 2004 (hereafter, Riverside WQMP Manual), Section 4.5.3 Treatment Control BMPs, states that “for identified Pollutants of Concern (POCs) that are causing impairments in receiving waters, the Project-Specific WQMP shall incorporate one or more Treatment Control BMPs of at least *medium* efficiency [emphasis added].” The Final 2006 CWA Section 303(d) List of Water Quality Limited Segments identifies the entire length of Murrieta Creek, a primary receiving water in the City’s jurisdiction, as impaired for nitrogen and phosphorus (nutrients). As explained by Mr. Licitra, he does not strictly follow the Riverside WQMP Manual in his review of project proponent submittals for compliance with the WQMP requirements of Order No. R9-2004-001. In fact, Mr. Licitra explained that he has approved WQMP BMPs with a *low or medium* (L/M) removal efficiency when nutrients have been identified as a POC. Additionally, Mr. Licitra stated that he requires project proponents to expand the list of identified POCs to include all potential pollutants from a project, rather than targeting the POCs. The selection of BMPs which are protective of POC levels will be vitally important as TMDLs continue to be adopted and implemented in the permittee’s jurisdiction. Furthermore, the selection of WQMP BMPs which are effective for the identified POCs is more likely to result in measurable and tangible water quality improvement. As discussed onsite, the City should advance its WQMP

program to target POCs and local water quality issues in accordance with the intent of the SUSMP requirements.

3. Regional Water Board Order No. R9-2004-001, Requirement F.2.b.(6), Implementation Process, requires the City to “develop a process by which SUSMP requirements will be implemented.” Although a list of WQMP projects and hard copy project files are maintained, the City lacks a formal system to inventory the specific locations where BMPs are implemented, the corresponding maintenance obligations, and records demonstrating that maintenance has been performed. As a result, the City cannot ensure adequate long-term maintenance of the BMPs. As discussed onsite, the City should develop a formal system to track deployment, ownership, and maintenance history of WQMP BMPs to ensure adequate long-term maintenance of the BMPs.

Note: The inspection team visited a number of WQMP projects in various stages of development to generally observe BMP selection, placement, operation, and maintenance. The WQMP project sites that were visited include: (1) Industrial Condominiums of Temecula (ID No. PA05-0127), (2) Temecula Corporate Center (ID No. PA05-0036), (3) Nelson Auto Service Center (ID No. PA05-0086), (4) Rancho View Professional (ID No. PA07-0084), and (5) YMCA center (ID No. PA05-0365).

Construction

4. Regional Water Board Order No. R9-2004-001, Requirement G.7, Enforcement of Construction Sites, requires the City to “enforce its ordinances (grading, storm water, etc.) and permits (building, grading, etc.) at all construction sites as necessary to maintain compliance with the Order [No. R9-2004-001].” The Temecula Municipal Code, Chapter 18.15, Section 02, Construction runoff compliance, states that “all individually proposed construction and grading projects shall implement measures to ensure that pollutants from the site will be reduced to the maximum extent practicable.” It was observed during the inspection that BMPs were not adequately installed and maintained to prevent the discharge of pollutants from the YMCA, MJW Property, and Hemmingway at Redhawk construction sites (see specifically Findings 7, 8, and 9 below). As a result, the City exhibited a lack of adequate private construction oversight to prevent the discharge of pollutants from these locations. Findings 7, 8, and 9 were considered collectively in making this determination. The City must correct Findings 7, 8, and 9 through prompt and effective enforcement of its ordinances.
5. Regional Water Board Order No. R9-2004-001, Requirement G.5, requires the City to designate a set of minimum BMPs that ensure erosion prevention, slope stabilization, phased grading, and maintenance of all source control and treatment control BMPs at all construction sites, etc.... “Each Permittee shall implement, or require the implementation of, the designated minimum BMPs at each construction site within its jurisdiction year round.” The City’s Erosion and Sediment Control (ESC) Notes dated September 27, 2005 (hereafter, Standard ESC Notes) in combination with its

Administrative and Technical Procedures for Grading, Erosion, and Sediment Control dated 2004 (hereafter, Grading Manual) are what the City considers as its minimum BMPs. However, the Grading Manual does not include design criteria for ESC, only for grading. Furthermore, the Standard ESC Notes do not specify criteria for BMP design. As a result, neither of these documents includes design criteria and adequate installation and maintenance specifications for construction site BMPs. In order to address this issue, the City generally refers project proponents to the California Stormwater BMP Handbook for Construction dated January 2003 (hereafter, California BMP Handbook). As described by Mr. Licitra, however, the City does not reference or require the use of the California BMP Handbook. The combination of the Grading Manual, Standard ESC Notes, and California BMP Handbook may create confusion as to what standards the development community is held accountable. For example, it was observed during the inspection that BMPs were not adequately installed and maintained to prevent the discharge of pollutants from the YMCA, MJW Property, and Hemmingway at Redhawk construction sites (see specifically Findings 7, 8, and 9 below), which may be attributed the lack of a unified set of minimum BMPs and subsequent implementation. Formal adoption of such minimum BMP standards (e.g., California BMP Handbook, self-developed standards, or otherwise) would provide a more enforceable basis to the City staff in making inspection determinations and would also alleviate the burden of providing compliance assistance in an ad-hoc manner. Ultimately, adoption of minimum BMP standards may help to deliver a clear message to the development community on the City's expectations for BMP implementation. The City must formally designate an adequate set of minimum BMPs and ensure their implementation at each construction site within its jurisdiction year round.

6. Regional Water Board Order No. R9-2004-001, Requirement G.4, Source Identification, requires the City to "annually develop and update, prior to the rainy season, an inventory of all construction sites within its jurisdiction regardless of site size or ownership." The City of Temecula Stormwater Management Plan dated July 2005 (hereafter, Individual City SWMP), Section 7.1 Construction Site Inventory, states that "prioritized construction sites are tracked by using monthly Inspection Frequency sheets that list the active prioritized private and public development projects in the City." As provided by Mr. Licitra, the City's construction site inventory only includes those sites which maintain an active grading permit. Exhibit 2 displays the January 2008 Inspection Frequency sheet which is limited to the prioritized private and public development projects having an active grading permit. The City must maintain an inventory of all construction sites within its jurisdiction regardless of site size or ownership.

Site: YMCA site located at 29229 Margarita Street in Temecula, CA

7. Regional Water Board Order No. R9-2004-001, Requirement G.5, requires the City to designate a set of minimum BMPs that ensure erosion prevention, slope stabilization, and maintenance of all source control and treatment control BMPs at all construction sites, etc.... "Each Permittee shall implement, or require the implementation of, the

designated minimum BMPs at each construction site within its jurisdiction year round.” It was observed during the inspection that adequate BMPs were not implemented to prevent the discharge of sediment from the disturbed slope area at the northern perimeter of the site (see attached Photograph 1). Adequate BMPs were not implemented to dissipate flow velocity on the slope and the surface of the slope was not stabilized. Slope erosion was observed, including rill and gully formation at the base of the slope (see attached Photograph 2). Furthermore, evidence of a previous failure event was observed, including a section of silt fence at the base of the slope that had been undercut (see attached Photograph 3) and erosion beyond the silt fence BMP (see attached Photograph 4). As a result, there was a discharge of sediment from the disturbed slope area leading offsite toward Empire Creek. BMPs must be adequately installed, inspected, and maintained to prevent the discharge of sediment from the disturbed slope area leading offsite toward Empire Creek. Moreover, the City must ensure erosion prevention, slope stabilization, and maintenance of all source control and treatment control BMPs at the YMCA project site.

Site: MJW Property located near the intersection of the Rio Nedo and Via Industria roadways on Avenue Alvarado in Temecula, CA

8. Regional Water Board Order No. R9-2004-001, Requirement G.5, requires the City to designate a set of minimum BMPs that ensure erosion prevention, slope stabilization, phased grading, and maintenance of all source control and treatment control BMPs at all construction sites, etc.... “Each Permittee shall implement, or require the implementation of, the designated minimum BMPs at each construction site within its jurisdiction year round.” It was observed during the inspection that adequate BMPs were not implemented to prevent the discharge of sediment from a large expanse of disturbed area located up-gradient of a sediment trap BMP serving both the MJW Property and the adjacent Temecula Corporate Center construction site. Evidence of a previous runoff event discharging sediment to this structural control was observed; including sediment laden water in the structural control and gully erosion at the inlet area (see attached Photograph 5). Rill and gully formations were also present on the disturbed slope leading to the sediment trap BMP (see attached Photograph 6). Moreover, temporary erosion and sediment control BMPs were not present on the site and a large area of exposed soil was observed down-gradient and outside the area served by the sediment trap BMP (see attached Photograph 7). As a result, there was a potential for the discharge of sediment from the site. Mr. Shabec explained that the project proponent/site operator’s business had dissolved and the site had since been abandoned. In conjunction with the site conditions, this situation indicates the need for increased City oversight to ensure site owner/operator accountability through the life of a construction project. Adequate BMPs must be implemented to prevent the discharge of sediment from the large expanse of exposed soil located throughout the MJW project site. Moreover, the City must ensure erosion prevention, slope stabilization, phased grading, and maintenance of all source control and treatment control BMPs at the MJW Property.

Site: Hemmingway at Redhawk by Centex Homes located on Via Puebla roadway in Temecula, CA

9. Regional Water Board Order No. R9-2004-001, Requirement G.5, requires the City to designate a set of minimum BMPs that ensure erosion prevention, slope stabilization, phased grading, and maintenance of all source control and treatment control BMPs at all construction sites, etc.... “Each Permittee shall implement, or require the implementation of, the designated minimum BMPs at each construction site within its jurisdiction year round.” It was observed during the inspection that adequate BMPs were not implemented to prevent the discharge of sediment from a large expanse of disturbed area located throughout the project site. The silt fence BMPs implemented as perimeter control were not installed in accordance with best engineering practice requirements in general, or those specified in either the Standard ESC Notes or the California BMP Handbook. Specifically, the silt fence was not installed on the contour and stakes were incorrectly positioned on the up-gradient side of the silt fence (see attached Photograph 8). Sediment had accumulated in the down-gradient landscaping (see attached Photograph 9) and subsequent drainage conveyance (see attached Photograph 10) leading to the curb and gutter flow-line. Evidence of a previous failure event was observed, including sediment that had been discharged to a down-gradient storm drain inlet (see attached Photograph 11). BMPs must be adequately installed, inspected, and maintained to prevent the discharge of sediment from the disturbed areas of the site and the sediment discharged to the inlet must be removed and disposed of properly. Furthermore, the City must ensure erosion prevention, slope stabilization, phased grading, and maintenance of all source control and treatment control BMPs at the Hemmingway at Redhawk site.

Illicit Discharge Detection and Elimination (IDDE) Program

Site: Redhawk Golf Course located near the intersection of Peachtree and Deer Hollow roadways in Temecula, CA

10. Regional Water Board Order No. R9-2004-001, Requirement B.1, requires the City to “effectively prohibit all types of non-storm water discharges into its MS4 unless such discharges are either authorized by a separate NPDES permit; or are authorized in accordance with Requirements B.2 and B.3 [of the Order].” It was observed during the inspection that pond draining activities were actively causing an unauthorized non-storm water discharge to a drainage inlet located southwest of the pond. The water drained from the golf course irrigation pond was from a non-potable reclaimed water source (see attached Photograph 12), and potentially contained high levels of nutrients, pesticides, and other pollutants. Actively operating pumps (see attached Photograph 13) were discharging the reclaimed water across a grass drainage swale (see attached Photograph 14) to a storm drain inlet leading to the Pechanga Parkway Drainage Channel. As provided by Mr. Ben Neill (Water Resource Control Engineer, Regional Water Board), this discharge was not authorized by a separate NPDES permit. As a result, there was an illicit non-storm water discharge to the storm drain

and subsequent Pechanga Parkway Drainage Channel (see attached Photographs 15 and 16). The Temecula Municipal Code, Chapter 8.28, Section 200, Prohibited discharges, does not clearly prohibit this type of non-storm water discharge into the City's MS4 (see attached Exhibit 3). In addition, a fuel can filled with gasoline was stored outdoors where it could be exposed to storm water contact (see attached Photograph 12). The City must effectively prohibit all types of illicit non-storm water discharges into its MS4. Furthermore, the City's Illicit Discharge Detection and Elimination Program must be designed to emphasize frequent, geographically widespread inspections, monitoring, and follow-up investigations to detect illicit discharges such as the non-storm water discharge described above.

11. Regional Water Board Order No. R9-2004-001, Requirement J.2., requires the City to "develop or obtain an up-to-date labeled map of its entire MS4 and the corresponding drainage areas within its jurisdiction....The accuracy of the MS4 map shall be confirmed and updated at least annually." The City has developed a map of its MS4 but the corresponding drainage areas for specific storm drainage system mains and outfalls were not delineated. Ideally, dry weather screening and analytical monitoring of outfalls or targeted locations within the MS4 would utilize the drainage infrastructure map as a base-level tool for investigation and identification of any illicit pollutant sources. The City must develop or obtain an up-to-date labeled map of its entire MS4 and the corresponding drainage areas within its jurisdiction.
12. Monitoring and Reporting Program No. R9-2004-001, Section II.B.1.(a), states that "[Illicit Discharge Monitoring] stations shall be accessible points in the MS4 (i.e., outfalls, manholes or open channels) located downstream of potential sources of illicit discharges (i.e., commercial, industrial, and residential areas). Permittees shall use the MS4 map, developed pursuant to section J.2 of Order No. R9-2004-001, to help locate dry weather monitoring stations and to determine the number necessary to adequately represent the entire MS4." The City has selected four primary Illicit Discharge Monitoring stations. The following stations are located in a natural waterway: Empire Creek at Del Rio Road Bridge (hereafter, EC1), Pechanga Creek at Rainbow Canyon Road Bridge (hereafter, PC1), and Temecula Creek at the confluence with Murrieta Creek (hereafter, TC1). The final primary station, Pechanga Parkway Drainage Channel outlet behind Canterfield and Trotsdale (hereafter, PP1), is located in the open channel drainage system. Station PP1 was flowing and/or contained ponded water during City inspections conducted on April 7, 2006 (see attached Exhibit 4); August 31, 2006 (see attached Exhibit 5); June 15, 2007 (see attached Exhibit 6); and August 27, 2007 (see attached Exhibit 7). This data indicates that Station PP1 has flowing water the majority of the year and therefore is not representative of dry weather flow. Furthermore, Stations EC1, PC1, and TC1 are not appropriate points in the MS4 and are instead located in natural waterways. These sites hold little value for identifying unauthorized dry weather discharges to the MS4 and eliminating their respective source(s). As discussed onsite, the City must select dry weather monitoring stations at accessible points in the MS4, the number of which are adequate to represent the entire MS4 under dry weather conditions.

13. Monitoring and Reporting Program No. R9-2004-001, Section II.B.1.(a), requires that each Illicit Discharge Monitoring station be inspected at least twice between May 1st and September 30th of each year. In 2006, none of the monitoring stations were inspected twice during the May 1st to September 30th required time period. Specifically, inspections at all monitoring stations were conducted once within the May 1st to September 30th time period and once outside this time frame. As provided by Mr. Licitra, the City's Illicit Discharge Monitoring stations were only inspected twice during 2006. Exhibit 8, an excerpt from the Annual Progress Report dated October 20, 2006, provides documentation of the second inspection event of 2006 which was conducted outside the May 1st to September 30th required time period. The City must inspect each Illicit Discharge Monitoring station at least twice between May 1st and September 30th of each year.
14. Monitoring and Reporting Program No. R9-2004-001, Section II.B.3, states that "Permittees shall develop numeric criteria for field screening and analytical monitoring results that will trigger follow-up investigations to identify the source causing the exceedance of the criteria." As provided by Mr. Licitra, the City is utilizing the Riverside County Consolidated Monitoring Program for Water Quality Monitoring dated December 15, 2003 (hereafter, Consolidated Monitoring protocol) as its procedure for Illicit Discharge Monitoring. The Consolidated Monitoring protocol does not contain numeric criteria for laboratory analysis (see attached Exhibit 9). As a result, numeric criteria were not developed for the following required laboratory analysis parameters: total hardness, oil and grease, ammonia nitrogen, total phosphorus, copper (total and dissolved), surfactants (MBAS), diazinon and chlorpyrifos, lead (dissolved), nitrate nitrogen, E. coli, total coliform, and fecal coliform.

Monitoring and Reporting Program No. R9-2004-001, Section II.B.3, also requires the City to develop numeric criteria for field screening activities. The Consolidated Monitoring protocol Section 3.4.9 states that "if the inspector is not able to apply BPJ [Best Professional Judgment] to determine if impairment may be occurring based on field water quality measurements, the following numeric guidance may be used." These numeric criteria are displayed in Exhibit 9, which demonstrates that the City had not developed a numeric criterion for temperature, a required field screening analysis parameter. The City must develop numeric criteria for field screening and analytical monitoring results that will trigger follow-up investigations to identify the source causing any exceedance of the criteria.

15. Monitoring and Reporting Program (MRP) No. R9-2004-001, Section II.B.2.(a), requires the City to record the following general information at each inspected dry weather monitoring site: time since last rain, quantity of last rain, site descriptions, flow estimation, and visual observations. For all dry weather monitoring site inspections conducted in 2006 (see attached Exhibits 10 and 11) and 2007 (see attached Exhibits 12 and 13), inspection records did not document: (1) time since last rain, (2) site descriptions, or (3) flow estimation. Furthermore, because City staff had not recorded time since the last rain, the City cannot demonstrate that at least seventy-

two hours of dry weather had elapsed prior to conducting field screening analysis, a requirement of Section II.B.2.(b) of the MRP. The City must record the minimum general information at each dry weather monitoring site inspected.

16. Monitoring and Reporting Program No. R9-2004-001, Section II.C.(c), requires that records of monitoring information include: (1) the date, exact place, and time of sampling or measurements; (2) the individual(s) who performed the sampling or measurements; (3) the date(s) analyses were performed; (4) the individual(s) who performed the analysis; (5) the analytical techniques or methods used; and (6) the results of such analyses. For all dry weather monitoring site inspections conducted in 2006 and 2007, monitoring records did not document the units for the results obtained. Exhibit 16 displays an example of the 2006 records lacking units. Records of monitoring information must include the information specified in Section II.C.(c) of the MRP.
17. Monitoring and Reporting Program No. R9-2004-001, Section II.B.3, states that “Permittees shall develop numeric criteria for field screening and analytical monitoring results that will trigger follow-up investigations to identify the source causing the exceedance of the criteria.” Pursuant to this requirement, the Consolidated Monitoring protocol Section 3.4.9 establishes the following numeric criteria: “pH below 6 or above 9.5” and “Dissolved Oxygen [DO] below 4 mg/L” (see attached Exhibit 14). The Annual Progress Report dated October 20, 2006 states “No indications of illicit discharges” in April 2006 (see attached Exhibit 15). However, an exceedance of the pH numeric criterion was reported at the Long Canyon station located at “Box Culvert on Pina Colada” (hereafter, LC2) on April 19, 2006 (pH = 9.68). In addition, an exceedance of the DO numeric criterion was reported at the Empire Creek station located at “Box Culvert on Yukon” (hereafter, EC2) on April 19, 2006 (DO = 2.50). Exhibit 16 provides documentation of these exceedances. As provided by Mr. Licitra, the City’s “Dry Weather Discharge Monitoring Log” for 2006 represents the only dry weather monitoring conducted in that year. As a result, the City had not conducted follow-up investigations to identify the source causing the April 19, 2006 exceedances. Monitoring and Reporting Program No. R9-2004-001, Section II.B.3, states that “in the event of an exceedance of the criteria, Permittees shall implement the follow-up investigation procedures developed pursuant to section J.4 of Order No. R9-2004-001.”
18. Monitoring and Reporting Program No. R9-2004-001, Section II.B.2.(b), states that “if flow or ponded water is observed at a station and there has been at least seventy-two hours of dry weather, a field screening analysis...shall be conducted.” As discussed in Finding 15, because City staff had not recorded time since the last rain, the City cannot demonstrate that at least seventy-two hours of dry weather had elapsed prior to conducting the field screening analysis. Furthermore, field screening analyses were conducted when flow or ponded water was observed at a station, but there had not been at least seventy-two hours of dry weather on the following occasions: (1) at Station PP1 on April 7, 2006 when a maximum of sixty-two hours of dry weather could have elapsed; (2) at Station TC1 on April 7, 2006 when a

maximum of sixty-four hours of dry weather could have elapsed; (3) at Station EC1 on August 27, 2007 when a maximum of thirty-nine hours of dry weather could have elapsed; (4) at Station PP1 on August 27, 2007 when a maximum of thirty-seven hours of dry weather could have elapsed; and (5) at Station TC1 on August 27, 2007 when a maximum of thirty-eight hours of dry weather could have elapsed. Exhibit 17 and 18 provide documentation of the field screening analyses conducted on April 7, 2006 and August 27, 2007, respectively. Exhibit 19 shows the method used for calculating the maximum amount of dry weather that could have elapsed between the precipitation and inspection events. The City must allow at least seventy-two hours of dry weather to elapse prior to conducting dry weather monitoring inspections. If flow or ponded water is observed at a station and there has been at least seventy-two hours of dry weather, a field screening analysis must be conducted in accordance with Section II.B.2.(b) of the MRP.

City of Temecula - Municipal Separate Storm Sewer System (MS4)
(Order No. R9-2004-001)
Photograph Log
Inspected by: Scott Coulson (PG Environmental, LLC)



Photograph 1: View of the disturbed slope area at the northern perimeter of the YMCA site



Photograph 2: Slope erosion was observed, including rill and gulley formation at the base of the slope

**City of Temecula - Municipal Separate Storm Sewer System (MS4)
(Order No. R9-2004-001)**

Photograph Log

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Photograph 3: A section of silt fence at the base of the slope had been undercut by a previous flow event



Photograph 4: Erosion beyond the undercut section of silt fence BMP shown in Photograph 3

City of Temecula - Municipal Separate Storm Sewer System (MS4)
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Photograph 5: Sediment laden water in the structural control and gulley erosion present at the inlet area



Photograph 6: Rill and gulley formations on the disturbed slope leading to the sediment trap BMP

**City of Temecula - Municipal Separate Storm Sewer System (MS4)
(Order No. R9-2004-001)**

Photograph Log

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Photograph 7: A large area of exposed soil was observed down-gradient of the sediment trap BMP



Photograph 8: The silt fence was not installed on the contour and stakes were incorrectly positioned on the up-gradient side of the silt fence

**City of Temecula - Municipal Separate Storm Sewer System (MS4)
(Order No. R9-2004-001)**

Photograph Log

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Photograph 9: Sediment accumulated in the down-gradient landscaping



Photograph 10: Sediment accumulated in the drainage conveyance located down-gradient of Photographs 8 and 9

**City of Temecula - Municipal Separate Storm Sewer System (MS4)
(Order No. R9-2004-001)**

Photograph Log

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Photograph 11: Evidence of a previous failure event was observed, including sediment that had been discharged to a down-gradient storm drain inlet



Photograph 12: The water drained from the golf course irrigation pond was from a non-potable reclaimed water source

**City of Temecula - Municipal Separate Storm Sewer System (MS4)
(Order No. R9-2004-001)**

Photograph Log

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Photograph 13: Actively operating pumps used to drain the golf course pond



Photograph 14: Non-potable reclaimed water was pumped to a grass drainage swale and subsequent storm drain inlet leading to the Pechanga Parkway Drainage Channel

**City of Temecula - Municipal Separate Storm Sewer System (MS4)
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Photograph 15: View of discolored discharge to a down-gradient storm drain inlet




Photograph 16: View inside storm drain inlet leading to the Pechanga Parkway Drainage Channel

**City of Temecula - Municipal Separate Storm Sewer System (MS4)
(Order No. R9-2004-001)**

Exhibit Log

Inspected by: Scott Coulson (PG Environmental, LLC)

1/15/08
SC

	WATER QUALITY MANAGEMENT PLAN (WQMP)	
	INITIAL CHECKLIST	
	Applicant Name: _____	_____
Planning Application Number: _____	_____	
Project Name: _____	_____	

Does the proposed project incorporate any of the following categories? (All questions must be answered)		Yes	No
1	Modifications to Existing Developments - This category includes projects that create, add, or replace 5,000 sq. ft. or more of impervious surface on an already developed site. This category includes: (a) Expansion of a building footprint, or addition or replacement of a structure; (b) Increase in the gross floor area, or major exterior construction or remodeling; (c) Replacement of impervious surfaces that are not part of routine maintenance activities; (d) Land disturbing activities related to a structure or impervious surface. Note: If modifications create less than 50% of the impervious surface of a previously existing development, and the existing development was not originally subject to WQMP requirements, a WQMP shall be required only to the addition, and not to the entire development.		
2	Residential Development - This category includes subdivisions of single-family homes, multi-family homes, condominiums, and apartments consisting of 10 or more dwelling units.		
3	Non-Residential Development - This category includes projects that create more than 100,000 sq. ft. of impervious surface.		
4	Automotive Maintenance and Repair Shops - This category includes facilities engaged in general maintenance and mechanical repairs; body and upholstery repair; painting; transmission and exhaust repair; tire servicing; glass repair.		
5a	Restaurants - This category includes all eating and drinking establishments that create more than 5,000 sq. ft. of impervious surface.		
5b	Restaurants creating less than 5,000 sq. ft. of impervious surface are only required to follow the site design and source control requirements of the WQMP.		
6	Hillside Development - This category includes any developments that create more than 5,000 sq. ft. of impervious surface, are located in an area with known erosive soil conditions, and where the project will require grading natural slopes of 25% (4:1) or steeper.		
7	Environmentally Sensitive Areas (ESAs) - This category includes all development located within or directly adjacent to or discharging directly to an ESA which either creates 2,500 sq. ft. of impervious surface or increases the area of imperviousness by 10% or more of its naturally occurring condition. Note: "Directly adjacent" means within 200 feet of the ESA. "Discharging directly to" means outflow from a drainage conveyance system that is composed entirely of flows from the subject development or modification, and not commingled with flows from adjacent lands.		
8	Parking Lots - This category includes projects that create 5,000 sq. ft. or more of impervious surface for temporary parking or storage of motor vehicles. This category includes parking areas associated with any of the developments outlined above. Routine maintenance, including removal and replacement, is exempt.		
9	Streets, Roads, Highways & Freeways - This category includes projects that create 5,000 sq. ft. or more of impervious surface for transportation of motor vehicles. Routine maintenance, including removal and replacement, is exempt.		
10	Retail Gasoline Outlets - This category applies if either of the following criteria is met: (a) 5,000 sq. ft. or more of impervious surface, or (b) a projected 'Average Daily Traffic' count of 100 or more vehicles per day.		

If you answered "YES" to any of the questions above, a project-specific Water Quality Management Plan must be prepared and submitted.

Exhibit 1 – The City WQMP Applicability Checklist specifies a number of incorrect categorical thresholds

**City of Temecula - Municipal Separate Storm Sewer System (MS4)
(Order No. R9-2004-001)**

Exhibit Log

Inspected by: Scott Coulson (PG Environmental, LLC)

Jan 2008		NPDES Inspection Frequency Sheet																														Construction	Inspector		
High Priority Sites (Inspect once every two weeks during the wet season)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			
Wolf Creek-1																																			Pat
Woodside Homes-Mahogany																																			04-122
6 ac park 45896 W.C. Dr N.																																			05-062
Wolf Creek-2																																			06-042&04
Standard Pacific-Cottonwood																																			30264
Standard Pacific-Redwood																																			
Standard Pacific-LLC																																			
Stanard Pacific-Laurel																																			05-224
Woodside - Ironwood																																			05-211
Woodside - Sycamore																																			30264-6
Woodside Homes- Hawthorne																																			05-227
Woodside - Tamerack																																			06-018
Lennar - Stonebriar																																			06-103
Crowne Hill																																			Doug
Pacific Century Homes - The Reserve																																			01-139
Roripaugh Ranch																																			Jack
Panhandle																																			
Ashby - 1A																																			05-139
Davidson - 2																																			04-222
Key Bank - 3																																			
Vineyard Bank - 4A																																			
Downey Bank - 4B																																			
Pan																																			
Ashby LLC -																																			02-138
6 Ac Park																																			03-327
Harveston																																			Doug
William Lyons - Charleston Ln																																			04-209
Meritage - Aberdeen																																			05-117
Meritage - Charveston																																			05-121
Lennar - Prescott																																			06-022
Lennar - Barrington																																			06-082
Lennar - Emery																																			06-101
Temecula Estates - K&B Homes																																			Doug
Serafina and Murrieta Hot Springs																																			
Reserve -Gallery Homes																																			Jack
Santiago Road e/o John Warner																																			05-133

I = Inspected
V = Verbal
N = Inspection Notice Issued

C = Citation Issued
RB = SDRWQCB Rep Present
** = New Site

1 of 2

Exhibit 2 – Prioritized construction sites are tracked by using monthly Inspection Frequency sheets such as the one shown above

City of Temecula - Municipal Separate Storm Sewer System (MS4)
(Order No. R9-2004-001)

Exhibit Log

Inspected by: Scott Coulson (PG Environmental, LLC)

8.28.200 Prohibited discharges.

Page 1 of 1

1/29/08
SC

Temecula Municipal Code

Up Previous Next Main Search Print No Frames

Title 8 HEALTH AND SAFETY

Chapter 8.28 STORMWATER/URBAN RUNOFF MANAGEMENT AND DISCHARGE CONTROLS

Article II. Prohibited and Exempted Discharges, Illicit Connections and Liabilities

[remove highlighting]

8.28.200 Prohibited discharges.

A. The following discharges are prohibited:

1. Discharges into storm drains in a manner causing, or threatening to cause, a condition of pollution, contamination, or nuisance (as defined in CWC Section 13050), in water of the state;
2. Discharges into storm drains that cause or contribute to exceedances of water quality objectives for surface water or groundwater;
3. Discharges into storm drains containing **pollutants** which have not been reduced to the maximum extent practicable (MEP).

B. Discharges including, but not limited to, the following are prohibited from entering any storm drain:

1. Sewage;
2. Wash water resulting from the hosing or cleaning of gas stations, auto-repair garages, or other types of fueling or automotive services facilities;
3. Runoff resulting from the cleaning, repair, or maintenance of any type of equipment, machinery, or facility, including motor vehicles, cement-related equipment, port-a-potty servicing, etc.;
4. Wash water resulting from mobile operations, such as mobile automobile washing, steam cleaning, power washing and carpet cleaning, etc.;
5. Wash water resulting from the cleaning or hosing of impervious surfaces in municipal, industrial, and commercial areas, including parking lots, streets, sidewalks, driveways, patios, plazas, work yards and outdoor eating or drinking areas, etc.;
6. Runoff resulting from material storage areas containing chemicals, fuels, grease, oil, other hazardous materials;
7. Pool or fountain water containing chlorine, biocides, or other chemicals; discharges of pool or fountain filter backwash water;
8. Sediment, pet waste, vegetation clippings, or other landscape or construction-related wastes; and
9. Food-related wastes (e.g., grease, fish processing and restaurant kitchen mat and trash bin wash water, etc.). (Ord. 05-13 § 20 (part); Ord. 05-12 § 20 (part))

http://www.qcode.us/codes/temecula/view.php?topic=8-8_28-ii-8_28_200&highlightWord... 1/29/2008

Exhibit 3 – The Temecula Municipal Code, Chapter 8.28, Section 200, Prohibited discharges, does not clearly prohibit this type of non-storm water discharge into the City's MS4

**City of Temecula - Municipal Separate Storm Sewer System (MS4)
(Order No. R9-2004-001)**

Exhibit Log

Inspected by: Scott Coulson (PG Environmental, LLC)

04/15/06
SC

Dry Weather Illicit Discharge Monitoring Log - 2006 Baseline

Watercourse	2003 Thomas Brothers	Station I.D.	Location	Inspected (M/D/Y)	Date of Last Rain	Quantity of Last Rain	Flow Data	
							Width / Depth	Velocity / Rate
Primary Stations (Twice between May 1 and September 30) :								
1	Empire Creek	958 H6	EC1	Del Rio Rd. bridge	3:30 4/19/06	4/15/06	0.06"	3' / 0.5'
	<i>Mdo Licita</i>							
2	Pechanga Creek	979 B3	PC1	Rainbow Canyon Road & Pechanga Creek	3:00 4/7/06	4/5/06	0.61"	—
	<i>Mdo Licita</i>							
3	Pechanga Rd. stormdrain channel	979 C3	PP1	Behind Intersection of Canterfield & Trotsdale	2:00 4/7/06	4/5/06	0.61"	2' / 1'
	<i>Mdo Licita</i>							
4	Temecula Creek	979 A3	TC1	Confluence into Murrieta Creek	4:00 4/7/06	4/5/06	0.61"	15' / 3'
	<i>Mdo Licita</i>							
Secondary Stations (As needed) :								
5	Empire Creek	959 B5	EC2	Box culvert on Yukon	4:00 04/19/06	04/15/06	0.06"	2' / 0.5'
	<i>Mdo Licita</i>							
6	Long Canyon	959 B4	LC2	Box culvert on Pina Colada	4:30 4/19/06	4/15/06	0.06"	3' / 1'
	<i>Mdo Licita</i>							
7	Santa Gertrudis Creek	958 H2	SG2	WINCHESTER RD. BRIDGE Margarita Rd. bridge	2:00 4/20/06	4/15/06	0.06"	10' / 0.5'
	<i>Mdo Licita</i>							
Stations Monitored by RCFCD:								
8	Long Canyon	958 G5	LC1	Commerce Ctr. Dr. bridge	2:40 4/20/06	4/15/06	0.06"	30' / 0.5'
9	Murrieta Creek	978 J2	MC1	USGS station at end of Pujol Street	4:30 4/7/06	4/5/06	0.61"	40' / 5'
10	Redhawk Channel	979 F3	RH1	Confluence of Redhawk channel and Temecula	3:10 4/20/06	4/15/06	0.06"	8' / 0.5'
11	Santa Gertrudis Creek	958 F4	SG1	Jefferson Av. Bridge				

Exhibit 4 – Station PP1 was flowing and/or contained ponded water during a City inspection conducted on April 7, 2006

**City of Temecula - Municipal Separate Storm Sewer System (MS4)
(Order No. R9-2004-001)**

Exhibit Log

Inspected by: Scott Coulson (PG Environmental, LLC)

1/15/08
SC

Dry Weather Illicit Discharge Monitoring Log

Station I.D.	Watercourse	2003 Thomas Brothers	Location	Inspected time(M/D/Y)	Date of Last Rain	Quantity of Last Rain	Flow Data	
							Width / Depth	Velocity / Rate
Primary Stations (Twice between May 1 and September 30) :								
1	Empire Creek	958 H6	EC1 Del Rio Road Bridge	8/31/06 4:15	7/22/06	0.46"	2' / 0.5'	
	<i>Aldo Lictra</i>							
2	Pechanga Creek	979 B3	PC1 Rainbow Canyon Road Bridge	8/31/06 1:31	7/22/06	0.46"	—	
	<i>Aldo Lictra</i>							
3	Pechanga Rd. stormdrain channel	979 C3	PP1 Behind Canterfield & Trotsdale	8/31/06 1:45	7/22/06	0.46"	18" / 6"	
	<i>Aldo Lictra</i>							
4	Temecula Creek	979 A3	TC1 Confluence with Murrieta Creek	8/31/06 3:30	7/22/06	0.46	15' / 3'	
	<i>Aldo Lictra</i>							
Secondary Stations (As needed) :								
5	Empire Creek	959 B5	EC2 Box culvert on Yukon					
6	Long Canyon	959 B4	LC2 Box culvert on Pina Colada					
7	Santa Gertrudis Creek.	958 H2	SG2 Winchester Road Bridge					
Stations Monitored by RCFCD:								
8	Long Canyon	958 G5	LC1 Commerce Ctr. Dr. bridge					
9	Murrieta Creek	978 J2	MC1 USGS station at end of Pujol Street					
10	Redhawk Channel	979 F3	RH1 Confluence of Redhawk channel and Temecula	8/31/06 2:36	7/22/06	0.46	2' / 6"	1' / 5 ^{sec}
11	Santa Gertrudis Creek	958 F4	SG1 Jefferson Av. Bridge					

Exhibit 5 – Station PP1 was flowing and/or contained ponded water during a City inspection conducted on August 31, 2006

**City of Temecula - Municipal Separate Storm Sewer System (MS4)
(Order No. R9-2004-001)**

Exhibit Log

Inspected by: Scott Coulson (PG Environmental, LLC)

01/13/08
SC

Dry Weather Illicit Discharge Monitoring Log - 2007

Station	Watercourse	2003 Thomas Brothers	Station I.D.	Location	Inspected time(M/D/Y)	Date of Last Rain	Quantity of Last Rain	Flow Data	
								Width / Depth	Velocity / Rate
Primary Stations (Twice between May 1 and September 30) :									
1	Empire Creek	958 H6	EC1	Del Rio Road Bridge	6/15/07 3:00	4/23/07	0.02"	5' / 2'	
	<i>Ado Hicitra</i>								
2	Pechanga Creek	979 B3	PC1	Rainbow Canyon Road Bridge	6/15/07 1:00	4/23/07	0.02"	DRY	
	<i>Ado Hicitra</i>								
3	Pechanga Rd, stormdrain channel	979 C3	PP1	Behind Canterfield & Trotsdale	6/15/07 1:20	4/23/07	0.02"	2' / 1 1/2'	
	<i>Ado Hicitra</i>								
4	Temecula Creek	979 A3	TC1	Confluence with Murrieta Creek: EMWD 928 3117 6245 L3437 PALA #	6/15/07 2:00	4/23/07	0.02"	3' / 1 1/2'	
	<i>Ado Hicitra</i> NEW LOCATION ACROSS CONFLUENCE								
Secondary Stations (As needed) :									
5	Empire Creek	959 B5	EC2	Box culvert on Yukon					
6	Long Canyon	959 B4	LC2	Box culvert on Pina Colada					
7	Santa Gertrudis Creek	958 H2	SG2	Winchester Road Bridge					
Stations Monitored by RCFCD:									
8	Long Canyon	958 G5	LC1	Commerce Ctr. Dr. bridge					
9	Murrieta Creek	978 J2	MC1	USGS station at end of Pujol Street					
10	Redhawk Channel	979 F3	RH1	Confluence of Redhawk channel and Temecula					
11	Santa Gertrudis Creek	958 F4	SG1	Jefferson Av. Bridge					

Exhibit 6 – Station PP1 was flowing and/or contained ponded water during a City inspection conducted on June 15, 2007

**City of Temecula - Municipal Separate Storm Sewer System (MS4)
(Order No. R9-2004-001)**

Exhibit Log

Inspected by: Scott Coulson (PG Environmental, LLC)

01/15/08
32

Dry Weather Illicit Discharge Monitoring Log - 2007

Watercourse	2003 Thomas Brothers	Station I.D.	Location	Inspected time/(M/D/Y)	Date of Last Rain	Quantity of Last Rain	Flow Data	
							Width/Depth	Velocity/Rate
Primary Stations (Twice between May 1 and September 30):								
1	Empire Creek	958 H6	EC1	Del Rio Road Bridge	8/27/07 2:30	8/26/07	0.05"	5' / 2'
Mdo Hicitra LOCAL WATER DISTRICT HAS BEEN DISCHARGING WELL WATER INTO MURRIETA CREEK THIS MONTH.								
2	Pechanga Creek	979 B3	PC1	Rainbow Canyon Road Bridge	12:30 8/27/07	8/26/07	0.05"	DRY
Mdo Hicitra								
3	Pechanga Rd. stormdrain channel	979 C3	PP1	Behind Canterfield & Trotsdale	12:55 8/27/07	8/26/07	0.05"	2' / 1 1/2'
Mdo Hicitra								
4	Temecula Creek	979 A3	TC1	Confluence with Murrieta Creek: MWD 909 928 1777 EXT 6265 L 3431 PAVE 11 JACK/BUKE 2,632	1:35 8/27/07	8/26/07	0.05"	3' / 1/2'
Mdo Hicitra								
Secondary Stations (As needed):								
5	Empire Creek	959 B5	EC2	Box culvert on Yukon				
6	Long Canyon	959 B4	LC2	Box culvert on Pina Colada				
7	Santa Gertrudis Creek	958 H2	SG2	Winchester Road Bridge				
Stations Monitored by RCFCO:								
8	Long Canyon	958 G5	LC1	Commerce Ctr. Dr. bridge				
9	Murrieta Creek	978 J2	MC1	USGS station at end of Pujol Street				
10	Redhawk Channel	979 F3	RH1	Confluence of Redhawk channel and Temecula				
11	Santa Gertrudis Creek	958 F4	SG1	Jefferson Av. Bridge				

Exhibit 7 – Station PP1 was flowing and/or contained ponded water during a City inspection conducted on August 27, 2007

**City of Temecula - Municipal Separate Storm Sewer System (MS4)
(Order No. R9-2004-001)**

Exhibit Log

Inspected by: Scott Coulson (PG Environmental, LLC)

*04/20/08
SC C Temecula*

Dry Weather Illicit Discharge Monitoring Log - 2006 Baseline

Watercourse	2003 Thomas Brothers	Station I.D.	Location	Inspected (M/D/Y)	Date of Last Rain	Quantity of Last Rain	Flow Data	
							Width / Depth	Velocity / Rate
Primary Stations (Twice between May 1 and September 30) :								
1	Empire Creek	958 H6	EC1	Del Rio Rd. bridge	3:30 4/19/06	4/15/06	0.06"	3'/0.5'
	<i>Ado licita</i>							
2	Pechanga Creek	979 B3	PC1	Rainbow Canyon Road & Pechanga Creek	3:00 4/7/06	4/5/06	0.61"	—
	<i>Ado licita</i>							
3	Pechanga Rd. stormdrain channel	979 C3	PP1	Behind Intersection of Canterfield & Trotsdale	2:00 4/7/06	4/5/06	0.61"	2'/1'
	<i>Ado licita</i>							
4	Temecula Creek	979 A3	TC1	Confluence into Murrieta Creek	4:00 4/7/06	4/5/06	0.61"	15'/3'
	<i>Ado licita</i>							
Secondary Stations (As needed) :								
5	Empire Creek	959 B5	EC2	Box culvert on Yukon	4:00 04/19/06	04/15/06	0.06"	2'/0.5'
	<i>Ado licita</i>							
6	Long Canyon	959 B4	LC2	Box culvert on Pina Colada	4:30 4/19/06	4/15/06	0.06"	3'/1'
	<i>Ado licita</i>							
7	Santa Gertrudis Creek	958 H2	SG2	WINCHESTER RD. BRIDGE Margarita Rd. bridge	2:00 4/20/06	4/15/06	0.06	10'/0.5'
Stations Monitored by RCFCF:								
8	Long Canyon	958 G5	LC1	Commerce Ctr. Dr. bridge	2:40 4/20/06	4/15/06	0.06"	30'/0.5'
9	Murrieta Creek	978 J2	MC1	USGS station at end of Pujol Street	4:30 4/7/06	4/5/06	0.61"	40'/5'
10	Redhawk Channel	979 F3	RH1	Confluence of Redhawk channel and Temecula	3:10 4/20/06	4/15/06	0.06	8'/0.5'
11	Santa Gertrudis Creek	958 F4	SG1	Jefferson Av. Bridge				

Exhibit 8 – Illicit Discharge Monitoring Log for the Annual Progress Report dated October 20, 2006, documenting the inspection event conducted outside the May 1st to September 30th required time period

City of Temecula - Municipal Separate Storm Sewer System (MS4)
(Order No. R9-2004-001)

Exhibit Log

Inspected by: Scott Coulson (PG Environmental, LLC)

01/15/08
SL

- 3.4.9.2.1 Specific Conductance >25% higher than WQO
- 3.4.9.2.2 Total Dissolved Solids >25% higher than WQO
- 3.4.9.2.3 Turbidity >25% higher than the long-term average
- 3.4.9.2.4 pH below 6 or above 9.5
- 3.4.9.2.5 Dissolved Oxygen below 4 mg/L

3.4.9.3 Sample Measurement

See Section 3.G for general sample collection procedures

4. Field Procedures for Stormwater Monitoring

Stormwater monitoring is routine monitoring that is required for MS4 Permit compliance. Many of the procedures outlined for IC/ID monitoring can be followed for stormwater monitoring.

4.1 Prior to sampling

- 4.1.1 Field monitoring equipment should be checked at regular intervals and repaired promptly if needed.
- 4.1.2 Bottle supplies should be replenished after each sampling event. Supplies should be checked prior to the storm season and extra bottles ordered as anticipated.
- 4.1.3 Supplies should be checked at regular intervals. Damaged or worn-out supplies should be replaced.

4.2 Schedule monitoring activities

- 4.2.1 Put together sampling team. Two person teams are required for wet-weather sampling. A single person may collect dry-weather samples as long as a means of communication (e.g., radio or cell phone) with base is constantly available.
- 4.2.2 Bottle list varies depending on:
 - 4.2.2.1 Watershed
 - 4.2.2.2 Wet- or dry-weather sampling event

4.3 Day of sampling

- 4.3.1 Calibrate monitoring equipment (see Section 4.B.3.4.1)
- 4.3.2 Notify members of sampling team (see Section 4.B.3.4.2)
- 4.3.3 Notify Babcock Labs (see Section 4.B.3.4.3)
- 4.3.4 Load equipment and sample bottles into vehicle (see Section 4.G.4). The laboratory contains boxes pre-filled with sampling equipment, ice chests, and a binder with the bottle sets required. David Ortega (951-955-4390) has keys to the laboratory.
- 4.3.5 Fill ice chest(s) with ice

4.4 Sample collection

- 4.4.1 Arrive at sampling location
- 4.4.2 Follow the procedure outlined in Section 4.G.5. The sample category (Section 4.G.5.1.1.1) will vary according to the sampling event (e.g., wet or dry weather). The sample type (Section 4.G.5.1.1.2) may be "Grab" or "Composite" depending on permit requirements.
- 4.4.3 Collect a field screening sample and record the results on the Field Data Sheet (Appendix D.2). Section 4.B.3.4.9.1 contains a list of field parameters.
- 4.4.4 Calculate or estimate flow and record the results on the Field Data Sheet
- 4.4.5 Collect samples (see Section 4.G.3) and place the filled bottles in the ice chest. During wet weather, or if there are high flow during dry weather, it may not be safe to stand in the flow (see Section 4.G.5.1.10). Use a pole sampler to collect the sample.

Exhibit 9 – The Consolidated Monitoring protocol Section 3.4.9 lacks a number of numeric criteria

**City of Temecula - Municipal Separate Storm Sewer System (MS4)
(Order No. R9-2004-001)**

Exhibit Log

Inspected by: Scott Coulson (PG Environmental, LLC)

9/15/08
SC

Dry Weather Illicit Discharge Monitoring Log - 2006 Baseline

Watercourse	2003 Thomas Brothers	Station I.D.	Location	Inspected (M/D/Y)	Date of Last Rain	Quantity of Last Rain	Flow Data	
							Width / Depth	Velocity / Rate
Primary Stations (Twice between May 1 and September 30):								
1	Empire Creek	958 H6	EC1	Del Rio Rd. bridge	3:30 4/19/06	4/15/06	0.06"	3'/0.5'
	<i>Ado Licita</i>							
2	Pechanga Creek	979 B3	PC1	Rainbow Canyon Road & Pechanga Creek	3:00 4/7/06	4/5/06	0.61"	—
	<i>Ado Licita</i>							
3	Pechanga Rd. stormdrain channel	979 C3	PP1	Behind Intersection of Canterfield & Trotsdale	2:00 4/7/06	4/5/06	0.61"	2'/1'
	<i>Ado Licita</i>							
4	Temecula Creek	979 A3	TC1	Confluence into Murrieta Creek	4:00 4/7/06	4/5/06	0.61"	15'/3'
	<i>Ado Licita</i>							
Secondary Stations (As needed):								
5	Empire Creek	959 B5	EC2	Box culvert on Yukon	4:00 4/19/06	4/15/06	0.06"	2'/0.5'
	<i>Ado Licita</i>							
6	Long Canyon	959 B4	LC2	Box culvert on Pina Colada	4:30 4/19/06	4/15/06	0.06"	3'/1'
	<i>Ado Licita</i>							
7	Santa Gertrudis Creek	958 H2	SG2	WINCHESTER RD. BRIDGE Margarita Rd. bridge	2:00 4/20/06	4/15/06	0.06"	10'/0.5'
	<i>Ado Licita</i>							
Stations Monitored by RCFCD:								
8	Long Canyon	958 G5	LC1	Commerce Ctr. Dr. bridge	2:40 4/20/06	4/15/06	0.06"	30'/0.5'
9	Murrieta Creek	978 J2	MC1	USGS station at end of Pujol Street	4:30 4/7/06	4/5/06	0.61"	40'/5'
10	Redhawk Channel	979 F3	RH1	Confluence of Redhawk channel and Temecula	3:10 4/20/06	4/15/06	0.06"	8'/0.5'
11	Santa Gertrudis Creek	958 F4	SG1	Jefferson Av. Bridge				

Exhibit 10 – For all dry weather monitoring site inspections conducted in 2006, inspection records did not document the required information

**City of Temecula - Municipal Separate Storm Sewer System (MS4)
(Order No. R9-2004-001)**

Exhibit Log

Inspected by: Scott Coulson (PG Environmental, LLC)

1/15/08
SC

Dry Weather Illicit Discharge Monitoring Log										
Watercourse	2003 Thomas Brothers	Station I.D.	Location	Inspected time(M/D/Y)	Date of Last Rain	Quantity of Last Rain	Flow Data			
							Width / Depth	Velocity / Rate		
Primary Stations (Twice between May 1 and September 30) :										
1	Empire Creek	958 H6	EC1	Del Rio Road Bridge	8/31/06 4:15	7/22/06	0.46"	2'/0.5'		
	<i>Aldo Licita</i>									
2	Pechanga Creek	979 B3	PC1	Rainbow Canyon Road Bridge	8/31/06 1:31	7/22/06	0.46"	—		
	<i>Aldo Licita</i>									
3	Pechanga Rd. stormdrain channel	979 C3	PP1	Behind Canterfield & Trotsdale	8/31/06 1:45	7/22/06	0.46"	18"/6"		
	<i>Aldo Licita</i>									
4	Temecula Creek	979 A3	TC1	Confluence with Murrieta Creek	8/31/06 3:30	7/22/06	0.46	15'/3'		
	<i>Aldo Licita</i>									
Secondary Stations (As needed) :										
5	Empire Creek	959 B5	EC2	Box culvert on Yukon						
6	Long Canyon	959 B4	LC2	Box culvert on Pina Colada						
7	Santa Gertrudis Creek.	958 H2	SG2	Winchester Road Bridge						
Stations Monitored by RCFCD:										
8	Long Canyon	958 G5	LC1	Commerce Ctr. Dr. bridge						
9	Murrieta Creek	978 J2	MC1	USGS station at end of Pujol Street						
10	Redhawk Channel	979 F3	RH1	Confluence of Redhawk channel and Temecula	8/31/06 2:36	7/22/06	0.46	2'/6"	1'/5 ^{sec}	
11	Santa Gertrudis Creek	958 F4	SG1	Jefferson Av. Bridge						

Exhibit 11 – For all dry weather monitoring site inspections conducted in 2006, inspection records did not document the required information

**City of Temecula - Municipal Separate Storm Sewer System (MS4)
(Order No. R9-2004-001)**

Exhibit Log

Inspected by: Scott Coulson (PG Environmental, LLC)

01/13/08
SC

Dry Weather Illicit Discharge Monitoring Log - 2007

Station No.	Watercourse	2003 Thomas Brothers	Station I.D.	Location	Inspected time(M/D/Y)	Date of Last Rain	Quantity of Last Rain	Flow Data	
								Width / Depth	Velocity / Rate
Primary Stations (Twice between May 1 and September 30) :									
1	Empire Creek	958 H6	EC1	Del Rio Road Bridge	6/15/07 3:00	4/23/07	0.02"	5' / 2'	
	<i>Ado Hicitra</i>								
2	Pechanga Creek	979 B3	PC1	Rainbow Canyon Road Bridge	6/15/07 1:00	4/23/07	0.02"	DRY	
	<i>Ado Hicitra</i>								
3	Pechanga Rd, stormdrain channel	979 C3	PP1	Behind Canterfield & Trotsdale	6/15/07 1:20	4/23/07	0.02"	2' / 1 1/2'	
	<i>Ado Hicitra</i>								
4	Temecula Creek	979 A3	TC1	Confluence with Murrieta Creek: EMVD 928 3117 6245 L3437 PALA #	6/15/07 2:00	4/23/07	0.02"	3' / 1 1/2'	
	<i>Ado Hicitra</i> NEW LOCATION ACROSS CONFLUENCE								
Secondary Stations (As needed) :									
5	Empire Creek	959 B5	EC2	Box culvert on Yukon					
6	Long Canyon	959 B4	LC2	Box culvert on Pina Colada					
7	Santa Gertrudis Creek	958 H2	SG2	Winchester Road Bridge					
Stations Monitored by RCFCD:									
8	Long Canyon	958 G5	LC1	Commerce Ctr. Dr. bridge					
9	Murrieta Creek	978 J2	MC1	USGS station at end of Pujol Street					
10	Redhawk Channel	979 F3	RH1	Confluence of Redhawk channel and Temecula					
11	Santa Gertrudis Creek	958 F4	SG1	Jefferson Av. Bridge					

Exhibit 12 – For all dry weather monitoring site inspections conducted in 2007, inspection records did not document the required information

**City of Temecula - Municipal Separate Storm Sewer System (MS4)
(Order No. R9-2004-001)**

Exhibit Log

Inspected by: Scott Coulson (PG Environmental, LLC)

01/15/08
32

Dry Weather Illicit Discharge Monitoring Log-2007

Station	Watercourse	Station I.D.	Location	Inspected time(M/D/Y)	Date of Last Rain	Quantity of Last Rain	Flow Data	
							Width / Depth	Velocity / Rate
Primary Stations (Twice between May 1 and September 30):								
1	Empire Creek	958 H6	Del Rio Road Bridge	8/27/07 2:30	8/26/07	0.05"	5'0"	2'
	<i>Mdo Kicitra</i> LOCAL CREEK WATER DISTRICT HAS BEEN DISCHARGING WELL WATER INTO MURRIETA							
2	Pechanga Creek	979 B3	Rainbow Canyon Road Bridge	12:30 8/27/07	8/26/07	0.05"	DRY	
	<i>Mdo Kicitra</i>							
3	Pechanga Rd. stormdrain channel	979 C3	Behind Canterfield & Trotsdale	12:55 8/27/07	8/26/07	0.05"	2'1/2"	0
	<i>Mdo Kicitra</i>							
4	Temecula Creek	979 A3	Confluence with Murrieta Creek: HWY 56-928 1777	1:35 8/27/07	8/26/07	0.05"	3'1/2"	
	<i>Mdo Kicitra</i> EXT 6265 L 2437 PALA II JACK/DUNE 6932							
Secondary Stations (As needed):								
5	Empire Creek	959 B5	Box culvert on Yukon					
6	Long Canyon	959 B4	Box culvert on Pina Colada					
7	Santa Gertrudis Creek	958 H2	Winchester Road Bridge					
Stations Monitored by RCFCO:								
8	Long Canyon	958 G5	Commerce Ctr. Dr. bridge					
9	Murrieta Creek	978 J2	USGS station at end of Pujol Street					
10	Redhawk Channel	979 F3	Confluence of Redhawk channel and Temecula					
11	Santa Gertrudis Creek	958 F4	Jefferson Av. Bridge					

Exhibit 13 – For all dry weather monitoring site inspections conducted in 2007, inspection records did not document the required information

City of Temecula - Municipal Separate Storm Sewer System (MS4)
(Order No. R9-2004-001)

Exhibit Log

Inspected by: Scott Coulson (PG Environmental, LLC)

01/15/08
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- 3.4.9.2.1 Specific Conductance >25% higher than WQO
- 3.4.9.2.2 Total Dissolved Solids >25% higher than WQO
- 3.4.9.2.3 Turbidity >25% higher than the long-term average
- 3.4.9.2.4 pH below 6 or above 9.5
- 3.4.9.2.5 Dissolved Oxygen below 4 mg/L

3.4.9.3 Sample Measurement

See Section 3.G for general sample collection procedures

4. Field Procedures for Stormwater Monitoring

Stormwater monitoring is routine monitoring that is required for MS4 Permit compliance. Many of the procedures outlined for IC/ID monitoring can be followed for stormwater monitoring.

4.1 Prior to sampling

- 4.1.1 Field monitoring equipment should be checked at regular intervals and repaired promptly if needed.
- 4.1.2 Bottle supplies should be replenished after each sampling event. Supplies should be checked prior to the storm season and extra bottles ordered as anticipated.
- 4.1.3 Supplies should be checked at regular intervals. Damaged or worn-out supplies should be replaced.

4.2 Schedule monitoring activities

- 4.2.1 Put together sampling team. Two person teams are required for wet-weather sampling. A single person may collect dry-weather samples as long as a means of communication (e.g., radio or cell phone) with base is constantly available.
- 4.2.2 Bottle list varies depending on:
 - 4.2.2.1 Watershed
 - 4.2.2.2 Wet- or dry-weather sampling event

4.3 Day of sampling

- 4.3.1 Calibrate monitoring equipment (see Section 4.B.3.4.1)
- 4.3.2 Notify members of sampling team (see Section 4.B.3.4.2)
- 4.3.3 Notify Babcock Labs (see Section 4.B.3.4.3)
- 4.3.4 Load equipment and sample bottles into vehicle (see Section 4.G.4). The laboratory contains boxes pre-filled with sampling equipment, ice chests, and a binder with the bottle sets required. David Ortega (951-955-4390) has keys to the laboratory.
- 4.3.5 Fill ice chest(s) with ice

4.4 Sample collection

- 4.4.1 Arrive at sampling location
- 4.4.2 Follow the procedure outlined in Section 4.G.5. The sample category (Section 4.G.5.1.1.1) will vary according to the sampling event (e.g., wet or dry weather). The sample type (Section 4.G.5.1.1.2) may be "Grab" or "Composite" depending on permit requirements.
- 4.4.3 Collect a field screening sample and record the results on the Field Data Sheet (Appendix D.2). Section 4.B.3.4.9.1 contains a list of field parameters.
- 4.4.4 Calculate or estimate flow and record the results on the Field Data Sheet
- 4.4.5 Collect samples (see Section 4.G.3) and place the filled bottles in the ice chest. During wet weather, or if there are high flow during dry weather, it may not be safe to stand in the flow (see Section 4.G.5.1.10). Use a pole sampler to collect the sample.

Exhibit 14 – The Consolidated Monitoring protocol Section 3.4.9 establishes the following numeric criteria: "pH below 6 or above 9.5" and "Dissolved Oxygen below 4 mg/L"

**City of Temecula - Municipal Separate Storm Sewer System (MS4)
(Order No. R9-2004-001)**

Exhibit Log

Inspected by: Scott Coulson (PG Environmental, LLC)

- 6) Summary of Illicit Discharge Monitoring Program results, including: 1) All inspection, field screening, and analytical monitoring results; 2) All follow-up and elimination activities; and 3) Any proposed changes to station locations and/or sampling frequencies:

Date	Location	Monitoring Results	Follow-up and Elimination Activities	Proposed Changes
April 2006	Primary and secondary Locations	No indications of illicit discharges	None	No Changes Comment(s):
August 2006	Primary Locations	No indications of illicit discharges	None	No Changes Comment(s):

- 7) Assessment of overall program effectiveness based on the measurable goals established in the SWMP:

Overall, all of the primary dry-weather monitoring locations were monitored, and all SORs were investigated. The City did not encounter any illicit discharges or connections into or at any of the monitoring locations, and all of the SORs resulted in citations or written warnings.

Exhibit 15 – The Annual Progress Report dated October 20, 2006 states “No indications of illicit discharges” in April 2006

**City of Temecula - Municipal Separate Storm Sewer System (MS4)
(Order No. R9-2004-001)**

Exhibit Log

Inspected by: Scott Coulson (PG Environmental, LLC)

01/15/08
52

Dry Weather Illicit Discharge Monitoring Log - 2006 Baseline

Specific	Conductance	Turbidity	pH	Temperature	Dissolved Oxygen	COMMENTS: (include odors, color, clarity, floatables, stains, oil, sheen, surface scum, vegetation, etc at each station)
Primary Stations (Twice between May 1 and September 30):						
1	1.77	10	7.70	22.5	7.55	SLIGHTLY GREEN/BROWN, CLEAR
2	—	—	—	—	—	NO FLOW, DRY CREEK BED
3	0.59 <i>1st #</i>	360 <i>2nd #</i>	8.65	18.2	8.65	BROWN, CLOUDY
4	0.77	95	8.19	20.6	5.89	LIGHT BROWN, TRANSLUCENT
Secondary Stations (As needed):						
5	0.77	20	8.76	17.4°C	2.50	LIGHT BROWN, CLEAR, FLOATING PARTICLES.
6	0.64	9	9.68	25.8	15.04	BROWN, CLEAR
7	1.21	4	8.58	23.9	6.55	LIGHT BROWN, CLEAR
Stations Monitored by RCFCD:						
8	1.45	10	8.64	30.0	16.01	LIGHT BROWN, CLEAR
9	0.95	65	8.15	20.6	6.37	LIGHT BROWN, TRANSLUCENT
10	1.10	10	9.76	26.9	15.50	" " , CLEAR
11						

Exhibit 16 –Illicit Discharge Monitoring Log for 2006 showing exceedances of the pH and DO numeric criteria

**City of Temecula - Municipal Separate Storm Sewer System (MS4)
(Order No. R9-2004-001)**

Exhibit Log

Inspected by: Scott Coulson (PG Environmental, LLC)

04/15/08
32

Dry Weather Illicit Discharge Monitoring Log - 2006 Baseline

Watercourse	2003 Thomas Brothers	Station I.D.	Location	Inspected (M/D/Y)	Date of Last Rain	Quantity of Last Rain	Flow Data	
							Width / Depth	Velocity / Rate
Primary Stations (Twice between May 1 and September 30) :								
1	Empire Creek	958 H6	EC1	Del Rio Rd. bridge	3:30 4/19/06	4/15/06	0.06"	3'/0.5'
	<i>Mdo Licita</i>							
2	Pechanga Creek	979 B3	PC1	Rainbow Canyon Road & Pechanga Creek	3:00 4/7/06	4/5/06	0.61"	—
	<i>Mdo Licita</i>							
3	Pechanga Rd. stormdrain channel	979 C3	PP1	Behind Intersection of Canterfield & Trotsdale	2:00 4/7/06	4/5/06	0.61"	2'/1'
	<i>Mdo Licita</i>							
4	Temecula Creek	979 A3	TC1	Confluence into Murrieta Creek	4:00 4/7/06	4/5/06	0.61"	15'/3'
	<i>Mdo Licita</i>							
Secondary Stations (As needed) :								
5	Empire Creek	959 B5	EC2	Box culvert on Yukon	4:00 04/19/06	04/15/06	0.06"	2'/0.5'
	<i>Mdo Licita</i>							
6	Long Canyon	959 B4	LC2	Box culvert on Pina Colada	4:30 4/19/06	4/15/06	0.06"	3'/1'
	<i>Mdo Licita</i>							
7	Santa Gertrudis Creek	958 H2	SG2	WINCHESTER RD. BRIDGE Marguerite Rd. bridge	2:00 4/20/06	4/15/06	0.06	10'/0.5'
	<i>Mdo Licita</i>							
Stations Monitored by RCFCD:								
8	Long Canyon	958 G5	LC1	Commerce Ctr. Dr. bridge	2:40 4/20/06	4/15/06	0.06"	30'/0.5'
9	Murrieta Creek	978 J2	MC1	USGS station at end of Pujol Street	4:30 4/7/06	4/5/06	0.61"	40'/5'
10	Redhawk Channel	979 F3	RH1	Confluence of Redhawk channel and Temecula	3:10 4/20/06	4/15/06	0.06	8'/0.5'
11	Santa Gertrudis Creek	958 F4	SG1	Jefferson Av. Bridge				

Exhibit 17 –Field screening analyses conducted on April 7, 2006 without allowing at least seventy-two hours of dry weather to elapse

**City of Temecula - Municipal Separate Storm Sewer System (MS4)
(Order No. R9-2004-001)**

Exhibit Log

Inspected by: Scott Coulson (PG Environmental, LLC)

01/15/08
SL

Dry Weather Illicit Discharge Monitoring Log -2007

Watercourse	2003 Thomas Brothers	Station I.D.	Location	Inspected time/(M/D/Y)	Date of Last Rain	Quantity of Last Rain	Flow Data Width / Depth Velocity / Rate
Primary Stations (Twice between May 1 and September 30) :							
1	Empire Creek	958 H6	EC1 Del Rio Road Bridge	8/27/07 2:30	8/26/07	0.05"	50/2'
	<i>Mdo Kicitra</i> LOCAL CREEKS WATER DISTRICT HAS BEEN DISCHARGING WELL WATER INTO MURRIETA						
2	Pechanga Creek	979 B3	PC1 Rainbow Canyon Road Bridge	12:30 8/27/07	8/26/07	0.05"	DRY
	<i>Mdo Kicitra</i>						
3	Pechanga Rd. stormdrain channel	979 C3	PP1 Behind Canterfield & Trotsdale	12:55 8/27/07	8/26/07	0.05"	2/1 1/2'
	<i>Mdo Kicitra</i>						
4	Temecula Creek	979 A3	TC1 Confluence with Murrieta Creek	1:35 8/27/07	8/26/07	0.05"	3'/1 1/2'
	<i>Mdo Kicitra</i> EST 9265 L 3437 PALA II JACK/OWEN 6332						
Secondary Stations (As needed) :							
5	Empire Creek	959 B5	EC2 Box culvert on Yukon				
6	Long Canyon	959 B4	LC2 Box culvert on Pina Colada				
7	Santa Gertrudis Creek	958 H2	SG2 Winchester Road Bridge				
Stations Monitored by RCFCDD:							
8	Long Canyon	958 G5	LC1 Commerce Ctr. Dr. bridge				
9	Murrieta Creek	978 J2	MC1 USGS station at end of Pujol Street				
10	Redhawk Channel	979 F3	RH1 Confluence of Redhawk channel and Temecula				
11	Santa Gertrudis Creek	958 F4	SG1 Jefferson Av. Bridge				

Exhibit 18 –Field screening analyses conducted on August 27, 2007 without allowing at least seventy-two hours of dry weather to elapse

Exhibit 19: FIELD SCREENING TABLE

Station I.D.	Date/Time of Last Rain ¹	Date/Time of Inspection ²	Maximum Time of Dry Weather ³
PP1	April 5, 2006 @ 12:00 A.M.	April 7, 2006 @ 2:00 P.M.	62 hours
TC1	April 5, 2006 @ 12:00 A.M.	April 7, 2006 @ 4:00 P.M.	64 hours
EC1	August 26, 2007 @ 12:00 A.M.	August 27, 2007 @ 2:30 P.M.	38.5 hours
PP1	August 26, 2007 @ 12:00 A.M.	August 27, 2007 @ 12:55 P.M.	37 hours
TC1	August 26, 2007 @ 12:00 A.M.	August 27, 2007 @ 1:35 P.M.	37.5 hours

¹ Date obtained from the City's Dry Weather Monitoring Log. Assumed time of last rain occurred at 12:00 A.M. on the date reported

² Values obtained from the City's Dry Weather Monitoring Log. Assumed time of inspection occurred during normal City working hours

³ Values calculated from time elapsed between the time of last rain and inspection. Values were rounded up to the nearest half hour when used in the text of accompanying inspection report