

# State Highway Stormwater Report



Report to the Legislature  
2020



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## Table of Contents

<b>Executive Summary</b> .....	<b>2</b>
<b>Background</b> .....	<b>4</b>
Statutory Reference & Purpose .....	3
<b>Report on Item 2660-001-0042</b> .....	<b>5</b>
<b>Conclusion</b> .....	<b>12</b>
<b>References</b> .....	<b>13</b>
<b>Appendices</b> .....	<b>14</b>
Appendix A. Statutory Reporting Reference	
Appendix B. Violations/Enforcement Actions	
Appendix C. Active Violations/Enforcement Actions	
Appendix D. Trash Capture Systems	

## Executive Summary

The California State transportation system is comprised of the State Highway System that includes nearly 50,000 lane miles of pavement, 13,160 bridges, 205,000 culverts and drainage facilities, 86 safety roadside rest areas, and 30,000 acres of landscaped roadside. The State Highway System is served by extensive storm drain systems that are governed and regulated by multiple state and federal laws.

Transportation facilities are designed and constructed to collect, convey, and discharge stormwater runoff efficiently for user safety and for the protection of property. Caltrans uses stormwater best management practices to either eliminate or minimize the discharge of pollutants and control stormwater runoff flows from its infrastructure system. Managing stormwater runoff that comes from state transportation facilities helps Caltrans not only fulfill its regulatory obligations, but also its environmental stewardship goals.

This report is in response to Item 2660-001-0042 of the Supplemental Report of the 2018-19 Budget Act, which requests Caltrans to provide the following information:

- The number of stormwater permit violations the department has committed in the past three years, and the dates and locations where those violations occurred
- The number of permit violations that Caltrans is currently working to address and when and where those violations occurred, and
- The details of a workplan acceptable to the regional water quality control board to address open permit violations in the San Francisco Bay Area, or the timeline for developing those plans.

Per the requirements of its stormwater permit, Caltrans is required to report known occasions of non-compliance to the appropriate water quality control board. In the past three years, water quality control boards have issued a total of 78 violations/enforcement actions, both informal and formal, to Caltrans. Definitions of violations/enforcement actions are below and explained in Appendices “B and C”:

- Violation: An infraction of an order or the California Water Code. For example, an exceedance of a limit contained in a permit or discharging without a permit.
- Enforcement Action: Enforcement actions are taken in response to violations include both informal and formal actions.
- Informal Enforcement Action: An informal enforcement action is any enforcement action taken by Water Board staff that is not defined in statute, such as staff letters and notices of violation. An informal enforcement action not addressed in timely manner potentially becomes formal enforcement action.
- Formal Enforcement Action: Formal enforcement actions are statutorily recognized actions to address a violation or threatened violation such as Clean up and Abatement Orders.

A majority (65%) of the enforcement actions were informal in nature. Caltrans has already implemented corrective actions on 76 violations and is currently working to address the remaining two violations/enforcement actions. In addition, Caltrans continuously identifies improvements to minimize or eliminate future violations, which resulted in a reduction in violations by 34% over the past three years.

As required by a February 13, 2019 Cease and Desist Order (CDO), Caltrans has developed the Workplan to address trash in the Bay Area by working collaboratively with the San Francisco Bay Regional Water Quality Control Board and has met the December 31, 2019 submittal deadline. Caltrans expects to present the Workplan to the San Francisco Bay Regional Water Quality Control Board at the March 2020 meeting. The Workplan reflects an agreement on treatment actions for 2020 and potential treatment options to meet the 2022, 2024, and 2026 targets included in the CDO. Caltrans continues to work with the San Francisco Bay Regional Water Quality Control Board to reach agreement on the treatment actions for future years and is simultaneously implementing a series of extensive stormwater management and trash control practices. As the steward of California's roads and bridges and therefore its drainage system, Caltrans has and will continue to utilize effective best management practices to eliminate or minimize pollutant discharges, appropriately manage stormwater runoff from Caltrans right-of-way and comply with the various stormwater permits.

## **Background**

### **Statutory Reference & Purpose**

This report responds to Item 2660-001-0042 of the Supplemental Report of the 2018-19 Budget Act (see Appendix A). It provides information regarding Caltrans's stormwater permits, both on a statewide and San Francisco Bay region level. It details various stormwater permit enforcement actions as determined by water quality control boards that Caltrans has been directed to comply with over the past three years. The report includes all enforcement actions, both informal and formal, in response to a violation. Additionally, it describes current and future efforts and plans by Caltrans to comply with the permit violation issued by the San Francisco Bay Regional Water Quality Control Board.

### **Federal Authority**

In 1948, the federal Water Pollution Control Act was enacted to establish the basic structure for regulating water pollution within the United States. This act was significantly expanded, reorganized, and amended in 1972, and its common name became the "Clean Water Act" (33 U.S.C. § 1251, et seq.). In 1987, Congress amended the federal Clean Water Act and added section 402(p), which established a framework for regulating municipal and industrial stormwater discharges under the National Pollutant Discharge Elimination System Permit Program.

### **State Authority**

California Water Code Section 13376 indicates that any "person discharging or proposing to discharge pollutants or dredged or fill material, to the navigable waters of the United States within the jurisdiction of the state shall apply for and obtain Waste Discharge Requirements." For this permit, the State term "Waste Discharge Requirements" is equivalent to the federal term "National Pollutant Discharge Elimination System permits" as used in the Clean Water Act.

The State Water Resources Control Board issues this Order pursuant to Section 402 of the federal Clean Water Act and implementing regulations adopted by U.S. Environmental Protection Agency and Chapter 5.5, Division 7 of the California Water Code (commencing with section 13370, et seq.). It serves as a National Pollutant Discharge Elimination System permit for point source discharges to surface waters. This Order also serves as Waste Discharge Requirements pursuant to Article 4, Chapter 4, Division 7 of the Water Code (commencing with section 13260, et seq.). Applicable State regulations on discharges of waste are contained in the California Code of Regulations, Title 23, Division 3, Chapter 9.

### **California Porter Cologne Act**

California's Porter Cologne Act was enacted in 1969 by the California Legislature to expand the enforcement authority of the state. It established the State Water Resources

Control Board and Regional Water Quality Control Boards and granted them the authority to protect the quality and beneficial uses of surface waters and groundwater. In addition, it required the preparation of water quality control plans (basin plans) that identify the state's regional policies for managing water pollution. The State Water Resources Control Board and Regional Water Quality Control Boards protect surface waters through the development and issuance of National Pollutant Discharge Elimination System permits, and compliance enforcement.

## **Report on Item 2660-001-0042 of the Supplemental Report of the 2018-19 Budget Act:**

No later than January 10, 2019, the Department of Transportation, in consultation with the Department of Finance, shall submit to the fiscal committees of both houses and the Legislative Analyst's Office a report that provides the following information regarding the department's stormwater permits:

- **The number of stormwater permit violations the Department has committed in the past three years, and the dates and locations where those violations occurred.**

There were 78 violations/enforcement actions in the past three years (2016, 2017 and 2018), which are summarized in Appendix B.

The majority of enforcement actions (65%) were informal in nature. In addition, Caltrans continuously identifies improvements to minimize or eliminate future violations, which resulted in a reduction in violations over the past three years, as shown in the trend chart in Appendix B.

- **The number of permit violations that the department is currently working to address, and when and where those violations occurred.**

Of the 78 violations/enforcement actions the Department received in last three years, 76 violations/enforcement actions are complete and only two are active. The two active violations/enforcement actions are summarized in Appendix C.

- **The details of a workplan acceptable to the regional water quality control board to address currently open permit violations in the San Francisco Bay Area, or the timeline for developing those plans.**

In December 2016, Caltrans received a notice of violation regarding timely implementation of trash control measures from the San Francisco Bay Regional Water Quality Control Board. In February 2019, the San Francisco Bay Regional Water Quality Control Board adopted a Cease and Desist Order that required an acceptable workplan by December 31, 2019, to implement these trash control measures. Caltrans worked with the San Francisco Bay Regional Water Quality Control Board staff on developing the workplan and submitted the workplan by December 31, 2019. The following section details actions taken to date to address this notice of violation.

### Caltrans actions to date to address the permit violation in the San Francisco Bay Area

Caltrans conducted visual assessments of its Bay Area right-of-way, approximately 25,700 acres, in 2016 and 2018 to identify significant trash generating areas.



Caltrans is conducting feasibility assessments to identify locations where trash capture systems may be installed within its right-of-way and is coordinating with local municipalities to identify partnering opportunities for installation of these systems that treat both Caltrans and local right-of-way. Trash capture system is a device that traps all particles that are 5 mm or greater. Examples of devices are shown in Appendix "D". Caltrans is optimizing maintenance efforts by analyzing trash collection data and identifying trends. Caltrans will monitor and report progress towards compliance in the Caltrans Stormwater Program Annual Report, which is submitted to the State Water Resources Control Board on October 1 of each fiscal year.

Caltrans has funded projects that will install trash capture systems in partnership with local municipalities and programmed projects in the 2018 State Highway Operation and Protection Program and will continue to identify opportunities and program projects for trash control in future State Highway Operation and Protection Program cycles.

#### Actions in Progress for Cease and Desist Order R2-2019-0007

The terms of a Tentative Cease and Desist Order were agreed upon through an agency-to-agency negotiation process in November 2018 and the staff report for CDO acknowledges the agency level agreement. It was mutually agreed that Caltrans District 4 will address trash generated from 1,150 acres by 2020 with an ultimate target of 3,720 acres by 2026. However, at the Hearing of the San Francisco Bay Regional Water Quality Control Board in February 2019, the Board adopted a Cease and Desist Order that sets a revised, aggressive schedule for Caltrans to implement trash control measures in a significantly larger area than negotiated between the two agencies. The Cease and Desist Order requires an increase in treated area from 1,150 acres to 2,000 acres by June 2020 and from 3,720 acres to 8,800 acres by 2026. As an owner and operator of the State Highway System, Caltrans is responsible for its stormwater discharges meet NPDES Permit requirements. One of the pollutants Caltrans addresses when managing stormwater runoff is trash. Most of the trash is generated by users of highways, and trash includes discarded materials and common household disposal items such as food packaging. In addition, trash is generated from improperly tarped loads, illegal dumping, unsheltered encampments, and littering.

#### Petition to the State Water Resources Control Board:

On March 15, 2019, Caltrans filed a petition with the State Water Resources Control Board for their review of the San Francisco Bay Regional Water Quality Control Board Cease and Desist Order pursuant to Water Code Section 11320 and Title 23 of the California Code of Regulations, section 2050, seeking modification of the Cease and Desist Order to reflect more reasonable and feasible trash control targets.

In the petition, Caltrans also requested that the State Water Resources Control Board hold the petition in abeyance pursuant to California Code of Regulations, Title 23, section 2050.5, subdivision (d). This suspends the State Water Resources Control Board action on the petition and allows an opportunity for discussions to take place to resolve the matter, but it does not suspend the effectiveness of the Cease and Desist Order. Caltrans believes that it has complied with the San Francisco Bay region specific requirements of its National Pollutant Discharge Elimination System permit. The following is a summary of the grievances included in the petition:

- The Cease and Desist Order imposes requirements upon Caltrans exceeding the scope of the National Pollutant Discharge Elimination System Permit and Statewide Trash Provisions.
- The Cease and Desist Order requires an untenable compliance schedule.
- The condition of the Cease and Desist Order will require Caltrans to expend extraordinary amounts of public funds and resources to fulfill the compliance requirements.
- The Cease and Desist Order potentially may impact critical projects.

On June 21, 2019, Caltrans received a letter from the State Water Resources Control Board acknowledging receipt of the petition and granting Caltrans's request for an abeyance. The State Water Resources Control Board will hold the petition in abeyance until March 15, 2021.

#### Trash Control Implementation Workplan (Workplan):

Caltrans developed the Workplan working closely with the San Francisco Bay Regional Water Quality Control Board. The Workplan reflects an agreement on treatment actions for 2020 and potential treatment options to meet the 2022, 2024, and 2026 targets included in the CDO. A summary of the Workplan is shown below. Caltrans has met the CDO area benchmark acreage for 2020 and will continue to work with the San Francisco Bay Regional Water Quality Control Board to reach agreement on actions to meet future benchmarks.

The estimated cost to comply with the CDO is variable. The current treatment estimate is about \$1.1 billion, based on the current area requiring treatment of 8,800 acres and the estimated average cost rate of \$127,000/acre. This estimate is subject to change based upon several factors including but not limited to the following:

- Negotiations with Local Agencies regarding cost per acre of treatment for improvements constructed in local jurisdictions.
- Need for treating new additional acreage identified through future required trash assessments.
- Approval of new trash control systems.

- Cost of maintenance efforts dependent upon success of enhanced maintenance trash reduction activity pilot studies.

The costs of treatment are funded through the existing Caltrans District 4 budget for maintenance and operations. As compliance with the CDO is determined, it will require balancing these treatment actions with other requirements and transportation projects programmed for the Bay Area.

**Caltrans Current and Potential Compliance Actions Summary (as of December 31, 2019)**

Action Type	Control Type	Planned Acreage Treated by June 30, 2020	Planned Acreage Treated by June 30, 2022	Planned Acreage Treated by June 30, 2024	Planned Acreage Treated by June 30, 2026
Caltrans ROW treated through retrofit projects <sup>1</sup>	Structural Trash Control Measure <sup>2</sup>	103	221	888	1,005
Caltrans ROW treated through Caltrans funded local projects <sup>3</sup>	Structural Trash Control Measure <sup>3</sup>	1,091	1,364	1,491	1,491
Caltrans ROW treated through existing local projects <sup>4</sup>	Structural Trash Control Measure <sup>2</sup>	558	558	558	558
Caltrans ROW treated by planned local projects <sup>5</sup>	Structural Trash Control Measure <sup>2</sup>	0	TBD	TBD	4,509
Enhanced Maintenance <sup>6</sup>	Non-structural Trash Control Measure <sup>7</sup>	500	500 + TBD	500 + TBD	500 + TBD
Existing Vegetation Controls	Non-structural Trash Control Measure <sup>7</sup>	TBD	TBD	TBD	TBD
Public Education	Non-structural Trash Control Measure <sup>7</sup>	TBD	TBD	TBD	TBD
Alternative Compliance Credits (ACC) – Local ROW treated through Caltrans funded local projects <sup>8</sup>	ACCs <sup>9</sup>	TBD	TBD	TBD	TBD
<b>Total</b>	-	<b>2,252</b>	<b>2,643</b>	<b>3,438</b>	<b>8,063</b>
<b>CDO Area Benchmark Acreages</b>	-	<b>2,000</b>	<b>4,000</b>	<b>6,000</b>	<b>8,800</b>

TBD - To be determined

<sup>1</sup> Estimated ROW areas are based on structural measures identified through project-specific and corridor-based feasibility studies that will be implemented through planned and programmed stand-alone retrofit and multi-objective projects.

<sup>2</sup> Structural trash control measures are defined further in Section 4 of the Workplan.

<sup>3</sup> Values are based on programmed projects.

<sup>4</sup> Bay Area municipalities have treated portions of Caltrans ROW with existing municipal trash capture systems.

<sup>5</sup> Bay Area municipalities have identified 4,509 acres of additional Caltrans ROW that could potentially be treated in the future through Caltrans funded local projects. Caltrans will work with local agencies to identify feasible partnerships by October 2020 to prioritize programming funds for projects that can be

implemented to meet the compliance benchmarks for years 2022, 2024, and 2026. Determination of feasibility will be based on confirming where Caltrans ROW areas interconnect with local storm drain systems, locations where structural measures are determined to be feasible, and estimated ROW area treated for full trash capture.

<sup>6</sup> Caltrans is targeting the achievement of 500 acres by enhanced maintenance efforts within its ROW.

<sup>7</sup> Non-structural trash control measures are defined further in Section 5 of the Workplan.

<sup>8</sup> CDO Provision 5.c.i states if Caltrans and the Regional Water Quality Control Board agree that it is infeasible to implement both structural and non-structural controls sufficient to reach full trash capture equivalency within portions of ROW or in areas managed by municipalities or local agencies to which trash from Caltrans ROW is discharged, or other trash control projects within watersheds that reduce trash discharges from Caltrans ROW, Caltrans may seek ACCs. Two acres of local ROW or watershed area treated will yield one acre of ACC based on similar trash generation rating, i.e., the non-Caltrans ROW treated area must be of equivalent trash generation to the ROW determined to be infeasible to treat. Caltrans plans to continue coordinating with the RWQCB on reaching consensus on treatment infeasibility.

<sup>9</sup> ACCs are defined further in Section 6 of the Workplan.

## **Conclusion**

Caltrans operates and maintains approximately 50,000 lane miles of paved surfaces statewide. Caltrans utilizes effective best management practices to eliminate or minimize pollutant discharges, appropriately manage stormwater runoff from Caltrans right-of-way and comply with the various stormwater permits.

In its role as the steward of California's roads and bridges and therefore its drainage system, Caltrans continues to communicate and work cooperatively with the State and Regional Water Quality Control Boards in its efforts to address pollutants from entering the state's surface waters. Caltrans developed the Workplan to address trash in the Bay Area by working collaboratively with the San Francisco Bay Regional Water Quality Control Board and met the December 31, 2019 submittal deadline.

As the steward of California's state transportation system, Caltrans will strengthen effective best management practices to eliminate or minimize violations/enforcement actions.

## References

1. Legislative Analyst's Office. Supplemental Report of the 2018-19 Budget Act, Item 2660-001-0042—California Department of Transportation. September 4, 2018.  
<https://lao.ca.gov/reports/2018/3883/supplemental-language-2018.pdf>
2. State Water Resources Control Board. California Integrated Water Quality System Project (CIWQS) Glossary. June 20, 2108.  
<https://www.waterboards.ca.gov/ciwqs/glossary.html>
3. State Water Resources Control Board. Legislative Mandated Reports-Water Code Section 13385(o) Enforcement Report, Appendix C: Types and Classification of Enforcement Actions. 2010.  
[https://www.waterboards.ca.gov/publications\\_forms/publications/13385report/appendices/appendix\\_c.pdf](https://www.waterboards.ca.gov/publications_forms/publications/13385report/appendices/appendix_c.pdf)

## **Appendix A. Statutory Reporting Reference**

### *Supplemental Report of the 2018-19 Budget Act*

#### **Item 2660-001-0042—California Department of Transportation**

1. ***Bay Area Stormwater Permit Violation.*** No later than January 10, 2019, the Department of Transportation, in consultation with the Department of Finance, shall submit to the fiscal committees of both houses and the Legislative Analyst's Office a report that provides the following information regarding the department's stormwater permits:
  - The number of stormwater permit violations the department has committed in the past three years, and the dates and locations where those violations occurred.
  - The number of permit violations that the department is currently working to address, and when and where those violations occurred.
  - The details of a workplan acceptable to the regional water quality control board to address currently open permit violations in the San Francisco Bay Area, or the timeline for developing those plans.



## Appendix B. Violations/Enforcement Actions

The number of stormwater permit violations, including the dates and locations of the violations, that occurred in the past three years.

### Definitions for terms used in Appendix B

Some of the terms as defined by the State Water Resources Control Board are:

<b>Term</b>	<b>Description</b>
Violation	An infraction of an order or the California Water Code. For example, an exceedance of a limit contained in a permit or discharging without a permit.
Violation Type	Used to differentiate violations by categories (i.e., effluent, receiving water, reporting, monitoring violations, etc.) and subcategories (i.e., acute toxicity, groundwater, late reporting, etc.).
Enforcement Action	Enforcement actions are taken in response to violations include both informal and formal actions
Informal Enforcement Action	An informal enforcement action is any enforcement action taken by Water Board staff that is not defined in statute, such as staff letters and notices of violation
Formal Enforcement Action	Formal enforcement actions are statutorily recognized actions to address a violation or threatened violation such as Clean-up and Abatement Orders
Section 13267 Letter	Letter written in accordance with section 13267 of the Water Code. Used as an enforcement action, these letters cite violations and request information (monitoring, studies etc.)
Compliance Actions	Formal enforcement actions that directly require compliance using the authority established under Article 1 of Chapter 5 of the California Water Code such as Cease and Desist Orders, Clean-up and Abatement Orders and Time Schedule Orders.
Penalty Actions	Formal Actions that impose or settle a penalty or requires the completion of a project associated to a monetary amount
All Other Enforcement Actions	All other formal and informal actions that communicates a violation or starts the procedures of an enforcement case or that requires additional information or starts an investigation
Active	This is a status of a regulatory measure that is currently in effect.
Historical	This is a status of a regulatory measure used when it has expired, was rescinded, terminated, or no further action is required by the discharger.
Discharger	The organization named in the Order. The responsible party associated with the discharge

## Appendix C. Active Violations/Enforcement Actions

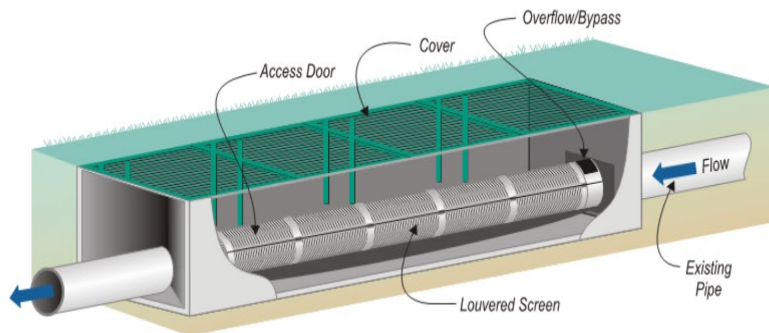
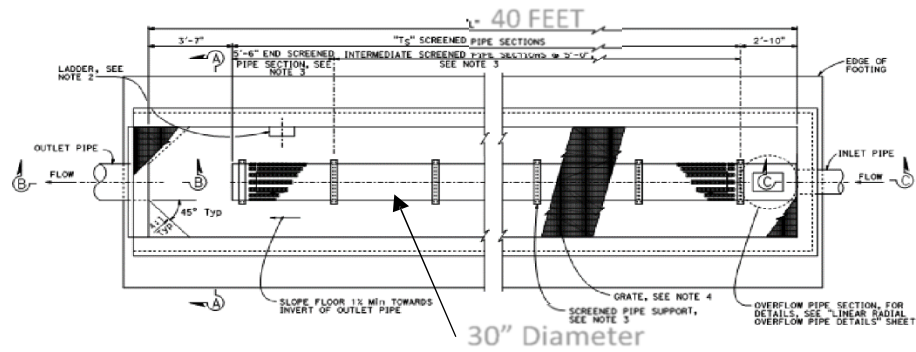
The number of permit violations that Caltrans is currently working to address.

### Definitions for terms used in Appendix C

Some of the terms as defined by the State Water Resources Control Board are:

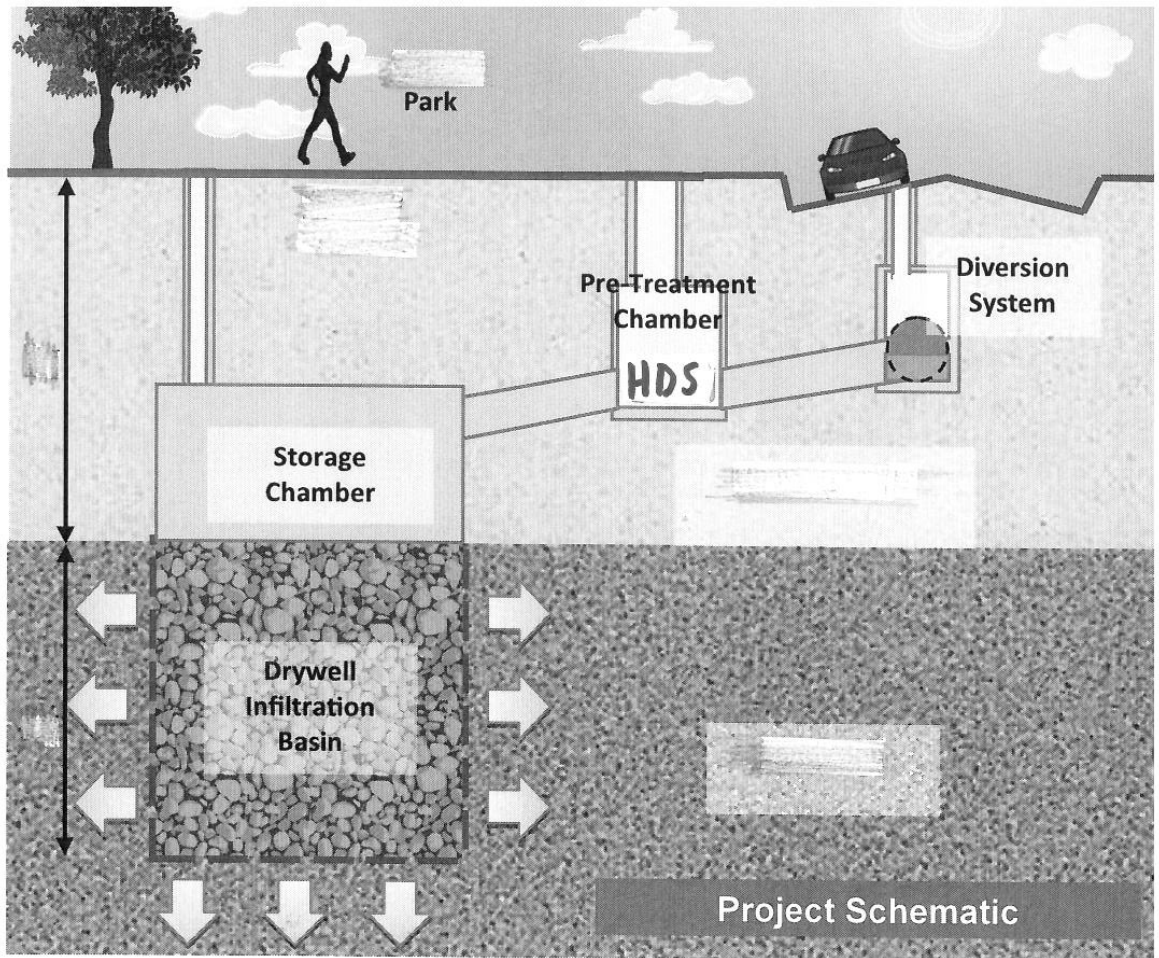
Term	Description
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Active	This is a status of a regulatory measure that is currently in effect.
Historical	This is a status of a regulatory measure used when it has expired, was rescinded, terminated, or no further action is required by the discharger.
Discharger	The organization named in the Order. The responsible party associated with the discharge.

## Appendix D. Trash Capture Systems

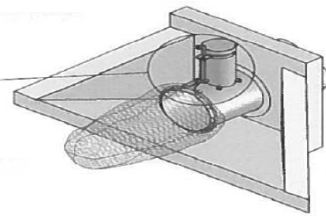
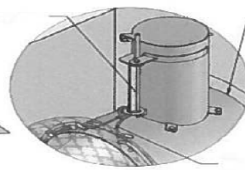
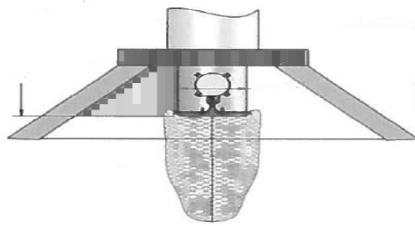


Gross Solid Removal Device (GSRD)

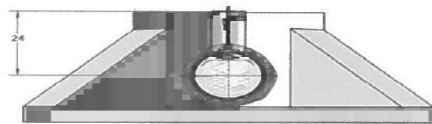
GSRD LINEAR (40 feet x 2.5 feet diameter-weight 600 lbs)



Hydrodynamic System (Typically Installed in Local Right of Way)



Net at the End of Pipe



View of Device

A type of Net Bag Trash Capture Device