County of Placer Proposed Changes are noted below as follows:
Inserted items with *green text*
Deleted items with ~~strikeout~~
Comments will be boxed

ATTACHMENT C

STATE OF CALIFORNIA

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION

MONITORING AND REPORTING PROGRAM
ORDER NO. R6T-2011-(Prop)
NPDES NO. CAG616001

UPDATED WASTE DISCHARGE REQUIREMENTS AND NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT FOR STORM WATER/URBAN RUNOFF DISCHARGES FROM EL DORADO COUNTY, PLACER COUNTY, AND THE CITY OF SOUTH LAKE TAHOE WITHIN THE LAKE TAHOE HYDROLOGIC UNIT

I. Pollutant Load Reduction Monitoring Requirements

A. Lake Clarity Crediting Program

The Lake Tahoe TMDL established pollutant load estimates and load reduction requirements for total nitrogen, total phosphorus, and fine sediment particles that source categories must meet on an average annual basis. The Lake Clarity Program (Crediting Program) defines a system to evaluate and track pollutant load reductions to demonstrate compliance with the load reduction requirements for fine particle sediment in the TMDL. This system provides methods for consistently linking implementation of pollutant controls to average annual pollutant load reduction estimates using numeric modeling tools. It establishes Lake Clarity Credits (credits) for actions taken to reduce pollutant loads as required by the Lake Tahoe TMDL. Credits are used in this Monitoring and Reporting Program to provide a consistent metric for assessing compliance with average annual pollutant load reduction requirements. The Crediting Program therefore provides a comprehensive and consistent accounting system to track estimated fine sediment particle load reductions into the LTHU from urban storm water, provides methods to assess ongoing performance of implementation actions, and guides interaction between the Water Board and Permittees regarding load reduction progress assessment.

Load reductions are defined as the difference between the estimated average annual amount of pollutants entering Lake Tahoe under standardized baseline conditions and the estimated average annual amount of pollutants entering the lake under expected conditions following management practice implementation.

Effective implementation of any pollutant control can generate credits, provided that the Permittees effectively demonstrate to the Water Board that the action (1) will reduce the load of the pollutants of concern to Lake Tahoe from urban land uses, (2) is supported by reasonable load reduction estimate, and (3) is implemented and maintained over time.

Effective implementation of pollutant controls results in actual conditions of urban lands and treatment best management practices (BMPs) that are at or better-than the conditions used as the basis for modeled load reduction estimates, referred to as "expected" conditions. Actual conditions, as assessed during annual inspections outlined in Section I.E of this Monitoring and Reporting Program, are compared to the expected conditions to determine the appropriate amount of credit to award in a given year. When actual conditions are at or better-than expected conditions, the actual pollutant loading from the catchment is considered to be the same or better than the expected pollutant loading and full credit will be awarded. If actual conditions are worse than expected, the actual loading is considered to be higher than expected loading and the credit award will be less than the full credit potential amount.

Credits are tracked and awarded annually. The credit accounting period is a water year, October 1 through September 30. Each year is a unique accounting period – credits awarded in one year cannot be used to meet load reduction requirements in a subsequent or prior year.

The following sections briefly describe components of the Crediting Program protocols and establish phased Crediting Program implementation requirements.

B. Credit Definition and Credit Requirements

The Crediting Program Handbook (Attachment D) defines one (1) Lake Clarity Credit as equal to 1.0×10^{16} fine sediment particles with a diameter smaller than 16 micrometers (µm).

To demonstrate compliance with the pollutant load reduction requirements outlined in Permit Table IV.B.1, each Permittee must earn and maintain Lake Clarity Credits in accordance with Permit Table IV.B.2 by **December 6, 2016.**

C. Crediting Program Handbook

The Lake Clarity Crediting Program Handbook version 1.0 (Handbook) defines the protocols for implementing the Crediting Program. The Handbook provides detailed technical guidance for estimating load reductions, preparing catchment credit schedules, reporting conditions and awarding credits. The Handbook provides forms, templates, and examples to aide users in implementing the process.

Crediting Program Handbook version 1.0 is incorporated into the Permit as Attachment D and all Lake Clarity Crediting Program procedures are incorporated as enforceable requirements under this Permit. Within the context of this Monitoring and Reporting Program, all Handbook references to "regulator" should be understood to mean the Water Board.

D. Catchment Credit Schedules

The credit potential for an urban catchment (or subwatershed) is based on estimates of load reduction from baseline to expected conditions. The Crediting Program Handbook describes a document called a *catchment credit schedule*, which defines the baseline condition for all catchments and provides the means to inventory treatment facilities, roadways, private property BMPs, and other pollutant controls. This information is then used to compare the expected conditions to the baseline value after the implementation of pollutant controls and forms the basis for the load reduction estimate and establishes the credit potential for a given catchment.

Crediting Program Handbook Chapter 1 describes the steps for developing a catchment credit schedule and submitting it for Water Board approval. Handbook Appendix A includes a complete example of each step in the process of establishing a catchment credit schedule, and the Tools and Templates section of the Handbook provides detailed instructive support. Generally, the process steps are:

1. Estimate pollutant load reductions and draft catchment credit schedule (see Handbook section 1.1).
2. Verify pollutant load reduction estimate and catchment credit schedule (see Handbook section 1.2).
3. Register catchment in the Accounting and Tracking Tool (see Handbook section 1.3).

To demonstrate proficiency at developing catchment credit schedules and to document pollutant load reduction actions, each Permittee shall prepare and register at least two (2) catchment credit schedules by **March 15, 2012** and register additional catchments by March 15 every year thereafter as needed to earn enough credits to meet the requirements contained in Permit Table IV.B.2. *Should the Permittee's Pollutant Load*

Reduction Plan (see Permit Section IV.C) identify registration of more than seven (7) catchments within the permit term to earn credit for completed projects or implementation of load reduction activities, then seven (7) shall be the minimum number of catchments registered during the permit term. For remaining, unregistered, catchments needed to earn required load reduction credits Permittees may apply appropriate extrapolation methods to estimate credits applicable in those catchment areas, for purposes of meeting load reduction requirements.

E. Condition Assessments

Credits are awarded annually by the Water Board for ongoing implementation of effective pollutant control measures that result in actual, observable conditions of urban lands and treatment BMPs that are consistent with the expected conditions used to estimate pollutant load reductions. Actual conditions, as determined by field inspection findings, are compared to expected conditions to determine the appropriate credit award. In some instances, partial credit may be awarded when actual conditions are worse than expected (see Handbook Appendix C).

Actual field conditions are evaluated and compared with expected conditions used to estimate pollutant load reductions. Each Permittee shall conduct treatment BMP and roadway condition assessments as described in the Crediting Program Handbook for all registered catchments.

Handbook Chapter 2.1 describes the process for defining inspection needs, performing facilities inspections, and recording results for registered catchments. Handbook Appendix B includes a detailed example of condition assessment inspection and reporting. Handbook Appendix C provides an overview of how actual conditions are compared with expected conditions to determine how much credit will be awarded.

Permittees shall use the Best Management Practices Maintenance Rapid Assessment Methodology (BMP RAM) and the Road Rapid Assessment Methodology (Road RAM) or their equivalents (subject to Water Board acceptance) to assess, score, and document the actual condition of treatment BMPs and roadways.

BMP and Road RAM technical documents, users manuals, and databases can be found on the Water Board's website at:

http://www.waterboards.ca.gov/lahontan/water_issues/programs/tmdl/lake_tahoe/index.shtml#imp

The BMP and Road RAM technical documents and users manuals are hereby incorporated into this Monitoring and Reporting Program by reference.

F. Condition Assessment Method Alternatives

Should a Permittee consider using a treatment facility assessment method other than the BMP RAM, the Permittee must submit a proposal to the Water Board Executive Officer. The submittal must describe how the Permittee will demonstrate that the proposed equivalent method will effectively evaluate treatment facility condition based on treatment process (infiltration, particle settling, media filtration, or nutrient cycling), is capable of evaluating the condition of the BMP on a 0-5 scale, with 5 representing the highest functioning condition, and produces repeatable results that are consistent with the BMP RAM.

Should a Permittee consider using a roadway condition assessment method other than the established Road RAM, it must submit a detailed proposal to the Water Board Executive Officer. The submittal must demonstrate that any proposed equivalent method will effectively evaluate roadway condition based on field observations of sediment accumulation, can demonstrably extrapolate results to other roadway areas, is capable of evaluating the condition of representative roadway segments on a 0-5 scale, with 5 representing the cleanest condition, and produces repeatable results consistent with the Road RAM.

The initial submittal for alternative condition assessment methods need not contain all technical information of the proposed alternative methods, but must establish a schedule for fully developing and submitting details for Water Board approval. Water Board staff and the Executive Officer will review any proposed alternatives and will bring the proposals before the Water Board for consideration. Permittees shall use the established Road and BMP RAM field and reporting protocols during the period of time while alternative methods are being developed and before such methods have been approved.

~~G. Impacts Influencing Baseline Pollutant Loads~~

~~Each Permittee shall conduct an annual assessment of the changes in land use, impervious coverage, and operations and maintenance practices to determine whether such changes have increased the baseline average annual pollutant loading as described in Permit Table IV.B. The assessment need only consider land use, impervious cover, and operations and maintenance changes that have occurred in hydraulically connected catchments not registered as part of the Lake Clarity Crediting Program that have occurred in the four years since the initial baseline analysis was conducted.~~

~~As part of this assessment, each Permittee shall determine if the magnitude of land use, impervious cover, and operations and maintenance practices has confirmed that the model assumptions and input variables used to calculate the Permittee's baseline pollutant load~~

~~estimates are no still valid and that such changes have not caused any increase in pollutant loads beyond the baseline estimate.~~

Comment: Not practical, nor necessary. Not clear how any quantitative assessment of non-registered catchment areas can be implemented. Everything done to meet the TMDL, up to this date, would have been based on established baseline loads. If baseline load estimates were based on historic "average" or "status quo" conditions, why would anything change during the subsequent four years? This is unnecessary and an inefficient use of resources.

If Permittees determine that changes in baseline loading have occurred, each Permittee shall identify the specific catchments where pollutant loads have changes and ensure those catchments have been registered under the Lake Clarity Crediting Program.

II. Inspection Requirements

A. Storm Water System Inspections

Visual inspection of storm water collection, conveyance, and treatment facilities is the most efficient tool to assess facility function and evaluate maintenance needs.

For portions of a Permittee's jurisdiction not included in a Crediting Program registered catchment, Permittees shall inspect *at least 20 percent of* its storm water collection, conveyance, and treatment systems ~~**at least once**~~ **annually.** Permittees shall conduct facilities inspections between the period of time following spring snow melt and before fall rain and snow storms each year to provide the opportunity to perform facilities maintenance as needed.

Storm water facilities shall be inspected for signs of needed maintenance, evidence of erosion, damage from snow removal equipment, and accumulated sediment and debris. During inspections, Permittees shall also ~~assess~~ *consider* potential storm water pollutant sources including but not limited to:

- Private property/residential runoff
- Commercial property runoff
- Eroding cut slopes
- Eroding road shoulders
- Traction abrasive application
- Dislodged sediment from snow removal activities
- Vehicles tracking sediment onto the roadway
- Parking related erosion

Permittees shall implement an inspection documentation and tracking system to record inspection findings and prioritize maintenance needs. At a minimum, the tracking system shall provide mechanisms to document the following:

- Inspector's name
- Date and time of inspection
- Field and weather conditions at the time of the inspection
- ~~Mapped~~ inspection location (~~i.e. catchment)~~
- Observed system condition at time of inspection
- An assessment of needed maintenance or other follow-up actions
- Prioritization of needed maintenance

B. Construction Site Inspections

Permittees shall establish construction site inspection frequencies based on the water quality prioritization described in Permit Section III.B.1. At a minimum, Permittees shall conduct weekly inspections during the construction season of high priority construction projects and construction projects overseen by the Permittee (e.g. erosion control projects).

Permittees shall inspect each medium and low priority construction site at a frequency sufficient to ensure that sediment and other pollutants are properly controlled and that unauthorized, non-storm water discharges are prevented.

Permittees shall implement a construction site inspection documentation and tracking system to record inspection findings. At a minimum, the tracking system shall provide mechanisms to document the following:

- Inspector's name
- Date and time of inspection
- Field and weather conditions at the time of the inspection
- Inspection location
- Observed facility conditions
- A summary of follow up and enforcement actions taken, if violations are observed.

C. Commercial, Industrial, and Municipal Site Inspections

Permittees shall establish commercial, industrial, and municipal site inspection frequencies based on the water quality prioritization described in Permit Section III.B.2. Each Permittee shall inspect ~~each~~ *at least 50 percent of* high priority commercial, industrial, and municipal site ~~at least once~~ annually.

Permittees shall implement a commercial, industrial, and municipal site inspection documentation and tracking system to record inspection findings. At a minimum, the tracking system shall provide mechanisms to document the following:

- Inspector's name
- Date and time of inspection
- Field and weather conditions at the time of the inspection
- Inspection location
- Observed facility conditions
- A summary of follow up and enforcement actions taken, if violations are observed.

D. Traction Abrasive and Deicing Material

The goal of traction abrasive monitoring program is to measure the quality and quantity of material applied and recovered. To meet that objective, Permittees shall implement a program that, at a minimum, includes the following:

1. Specifications for the amounts of fine sediment particles, total nitrogen, and total phosphorus allowable in material the Permittee applies as traction abrasives.

2. A program to sample supplied traction abrasive materials to determine whether materials meet the specifications defined according to II.D.1 above.

3. A system to track and record the total amount of abrasive and deicing material applied to its roads and parking areas per winter season. Materials applied to Permittee roads by other ~~approved~~ *authorized* entities shall be tracked and recorded along with Permittee applied material.

4. A system to track and record the location and amount that maintenance crews, Permittee contractors, or other ~~approved~~ *authorized* entities apply abrasive and deicing material (i.e. amount applied per "zone").

5. A system to track and record the amount of sediment and other material recovered from sweeping and vacuum extraction operations. Permittees shall report separate sediment amounts recovered by sweeping and vacuum equipment, per "zone".

III. Water Quality Monitoring Requirements

A. Catchment Scale Runoff Water Quality Monitoring

The Crediting Program and associated load estimation tools, including the Pollutant Load Reduction Model (PLRM), estimate the average annual pollutant load reductions at a catchment scale as a result of pollutant control actions. Storm water monitoring is needed to verify that implementing cumulative pollutant control actions is resulting in measurable pollutant load reductions at the catchment scale. Documenting and reporting pollutant load reductions at select catchment outlets will help verify that the jurisdictions cumulative pollutant control actions are effective and confirm credit awards are warranted. *This catchment scale monitoring shall only be required if, and when, the Permittee receives sufficient external funding for implementation.*

To assess the water quality at the urban catchment outfalls and provide load estimation tool comparison data, each Permittee shall, at a minimum:

1. Establish monitoring locations at storm water outfalls of no less than two (2) Crediting Program registered catchments, targeting catchments that discharge directly to surface waters.

2. Obtain continuous flow data at the catchment outfall and report data as seasonal [Fall/Winter (October 1 – February 28) Snow melt (March 1 – May 31) and Summer (June 1 – September 30)] total outflow volumes (in cubic feet).

3. Collect the first flush sample for each seasonal event type (rain-on-snow, snowmelt, summer thunderstorm, fall rain) and collect additional samples spanning storm event hydrographs. For all event types, report the average first flush concentration (mg/L) for each year sampled.

   Due to the large total volume of the spring snow melt, collect supplemental samples periodically throughout the snow melt hydrograph. Designate each sample as first flush, rising limb or falling limb of the snow melt hydrograph. Use the range of samples collected to estimate the snow melt event mean concentration (mg/L) for each year sampled, in addition to the first flush concentration.

4. Analyze all collected water samples for the Lake Tahoe TMDL pollutants of concern – fine sediment particles, total suspended sediment, total nitrogen, and total phosphorus. The priority pollutant is fine sediment particles (FSP) less than 16 micrometers (μm) in diameter, that should be reported as both concentration by mass

(mg/L) and the number of particles per liter of water. Samples collected and analyzed for FSP shall span the range of expected FSP concentrations experienced at the selected catchment outfall.

5. Total nitrogen, total phosphorus, and total suspended solids sample analyses may be conducted with lesser frequency than FSP analyses provided. Permittees must demonstrate the proposed approach will adequately reflect the range of nutrient and total suspended solid concentrations at the catchment outlet. The sampling strategy shall include a range of event types that is proportional to their frequency of occurrence and total seasonal volume contributions.

6. Collect paired turbidity and FSP measurements concurrently with flow at the catchment outfall. Relate FSP concentration by mass (mg/L) results to turbidity measurements by developing an FSP concentration/turbidity rating curve that correlates FSP concentration data collected over the range of conditions to measured turbidity. Use accepted FSP mass to particle number conversions to report FSP results as number of particles.

7. Use collected data to estimate the average flow-weighted concentration of each pollutant for each season monitored.

8. Calculate the total load (mass in kilograms for total nitrogen, total phosphorus, and total suspended solids and number of particles for FSP) of each pollutant for each season monitored as the product of the total seasonal volume and the average seasonal concentration.

9. Use long-term regional meteorological data to identify whether the data were collected during dry, average, or wet seasons.

10. Follow quality assurance protocols established by the Regional Storm Water Monitoring Program (RSWMP) Quality Assurance Project Plan (May 2011) for all sampling activities.

11. Maintain monitoring locations and collect samples for ~~the 2013~~ *each* water year (October 1 – September 30) ~~and for each water year thereafter for the remainder of this permit term.~~ *for which funding is available during the permit term.*

B. Best Management Practice (BMP) *Strategy* Effectiveness Monitoring

Each Permittee is required to develop and implement a Pollutant Load Reduction Plan (see Permit Section IV.C) which identifies BMP strategies to achieve required TMDL load reductions. Such strategies may include continuing construction of structural and non-structural water quality

controls, as well as operational improvements designed to reduce pollution potential. Since each Permittee's load reduction strategies may vary, it is important that there be a flexible monitoring approach that will allow for proper evaluation of BMP strategy effectiveness.

For example, traction abrasives applied by Permittees for roadway safety during winter months can be a significant source of fine sediment, especially when exposed to vehicular traffic for long periods of time. The type, composition and durability of material applied, as well as the effectiveness and timing of material removal from the road surface all combine to impact pollutant loads. Opportunities to reduce such impacts may be found in use of alternative materials as well as implementing more efficient application and recovery methods. Monitoring is needed to evaluate the benefits to pollutant load reduction from implementing such changes, and these should be evaluated for beneficial effects prior to implementation on a jurisdictional scale.

The PLRM and other pollutant load estimation tools use the best available information to assess water quality benefits expected from implementing storm water treatment devices and other BMPs. Condition assessments are used to verify that the condition of a BMP or specific land use is being maintained at an acceptable condition. BMP *strategy* effectiveness monitoring is needed to verify that each Permittee's BMP ~~implementation and maintenance~~ *strategies* ~~practices~~ are resulting in actual measured pollutant load reductions. ~~BMP effectiveness monitoring is also needed to improve installation and maintenance practices for various BMPs to optimize water quality benefits.~~

Each Permittee must, at a minimum, *identify a BMP strategy from their Pollutant Load Reduction Plan and propose monitoring to evaluate its effectiveness. Monitoring proposals shall include a narrative description of objectives, and shall include locations, schedules, sampling frequencies, analysis, reporting, and other appropriate parameters.*

~~1. Select at least one (1) storm water treatment device or other BMP and monitor effectiveness for at least three successive years. *or for the remainder of this Permit term, whichever occurs first.*~~

~~2. If the selected BMP is a flow-through structure/device, obtain continuous flow at the inlet and outlet to support seasonal [Fall/Winter (October 1 – February 28) Snow melt (March 1 – May 31) and Summer (June 1 – September 30)] inflow and outflow volume reporting.~~

~~If the selected BMP is not a flow-through device, devise a reasonable method to obtain continuous flow at the inlet to support~~

~~seasonal volume reporting of storm water treated/infiltrated/contained by the BMP.~~

~~If the selected BMP is a pollutant source control measure, the Permittee need not report hydrology and the monitoring plan shall describe methods to calculate the mass of pollutant controlled per land surface area.~~

3. ~~Collect influent (or up-gradient) and effluent (or down-gradient) storm water samples to assess treatment device/activity performance.~~

4. ~~Analyze all collected water samples for the Lake Tahoe TMDL pollutants of concern – fine sediment particles, total nitrogen, and total phosphorus. The priority pollutant is FSP reported as the number of particles per liter of water. Samples collected and analyzed for FSP shall span the range of expected FSP concentrations experienced at the inlet and outlet.~~

   ~~Total nitrogen, total phosphorus, and total suspended solids sample analyses may be conducted with lesser frequency than FSP analyses provided Permittees demonstrate the proposed approach will provide a representative sampling of the range of pollutant concentrations. The sampling strategy should include a range of event types that is proportional to their frequency of occurrence and total seasonal volume contributions.~~

5. ~~Use collected data to estimate the average concentration of each pollutant for each season monitored.~~

6. ~~If evaluating a pollutant or hydrologic source control BMP, describe a data collection approach and reasonable extrapolation method to estimate volume of runoff eliminated (hydrologic source control) or the mass of the pollutant, or number of particles eliminated per unit area of the land surface affected (pollutant source control). Describe how this value will be used to estimate pollutant loads controlled per season [Fall/Winter (October 1 – February 28) Snow melt (March 1 – May 31) and Summer (June 1 – September 30)].~~

7. ~~Use long-term regional meteorological data to identify whether the data were collected during dry, average, or wet seasons.~~

8. ~~Follow quality assurance protocols established by the Regional Storm Water Monitoring Program Quality Assurance Project Plan (May 2011) for all sampling activities.~~

C. Monitoring Plan

By ~~**July 15, 2012**~~ *March 15, 2013* each Permittee shall prepare and submit to the Water Board a storm water monitoring plan to implement the requirements described in Sections III.A and III.B above.

For catchment outfall monitoring, the plan shall describe how the requirements in Section III.A above will be met, including which catchments the Permittee proposes to monitor, proposed monitoring instrumentation, proposed sampling frequency, data management and proposed analysis and reporting methods. The monitoring plan shall include a detailed discussion of the rationale for the chosen sampling sites, methods, and frequency and a discussion of how the proposed monitoring will support, enhance, or otherwise inform the Permittee's existing load estimation or condition assessment methods and the Permittee's pollutant load reduction program.

For the BMP *strategy* effectiveness monitoring, the plan shall describe how the requirements in Section III.B above will be met, including a description of the selected storm water treatment device or BMP *strategy*, a discussion of influent (or upstream) and effluent (downstream) monitoring locations, and a description of how the proposed monitoring will evaluate the effectiveness of the chosen BMP *strategy* and provide information to improve the collective understanding of ~~how~~ the chosen BMP *strategy* ~~should be installed and maintained over time~~.

The submitted monitoring plans must be reviewed and approved by the Water Board to ensure compliance with Permit and Monitoring and Reporting Program requirements.

D. Storm Water Monitoring Data Management

Electronic data shall be in a format compatible with the Surface Water Ambient Monitoring Program (SWAMP) database (See http://mpsl.mlml.calstate.edu/swdataformats.htm) and the *California Environmental Data Exchange Network* (*CEDEN*) at www.ceden.org.

Permittees shall make all monitoring data and associated analytical reports available ~~through~~ *to managers of* a regional data center (such as the Tahoe Integrated Information Management System or RSWMP database) , and ~~optionally~~ through their web sites. Permittees shall notify stakeholders and members of the general public about the availability of electronic and paper monitoring reports through notices distributed through appropriate means, such as an electronic mailing list *or posting on their websites.*

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E. Storm Water Monitoring Compliance Options

To promote cost savings through economies of scale and avoid monitoring redundancy, Permittees may obtain monitoring data through various organizational structures, including use of data obtained by other parties.

Permittees may also choose to comply with the storm water monitoring requirements through a collaborative effort. Should the Permittees chose to conduct monitoring described in Sections III. A and III.B above as part of a collaborative effort, the group may submit a single storm water monitoring plan to fulfill the requirement contained in Section III.C above.

Any collaborative monitoring plan shall include plans to collect samples from no less than four (4) urban catchments (with at least one catchment in each jurisdiction) and evaluate performance of no less than two (2) BMP *strategies*. *One of the two required BMP strategies shall include evaluating effects of not less than one (1) traction abrasive material option, one (1) application enhancement, and one (1) recovery enhancement.* Permittees must describe how the selected catchments span an adequate range of land use conditions, size, and water quality improvement strategies to avoid duplication of data collection efforts. ~~Permittees must also describe how the selected sample sites support the development and implementation of a basin-wide catchment-scale monitoring network~~.

Comment: This should not be a permittee responsibility. Site selection will be based on the criteria specified in the permit; that should be sufficient.

Similarly, selected BMPs must reflect differing treatment processes and treatment approaches implemented by the Permittees to provide a range of useful monitoring findings. The submitted monitoring plan shall describe how the proposed collaborative effort will ~~effectively enhance the usefulness of collected data, achieve cost savings, and~~ meet the requirements outlined in Sections III. A and III.B above.

For each monitoring component that is conducted collaboratively, Permittees shall prepare a single report on behalf of all contributing Permittees; separate water quality monitoring reports are not required.

If an existing collaborative organization or other research and monitoring effort has initiated plans after the adoption of this Permit to conduct monitoring that would fulfill the requirements described in Sections III.A, III.B, and III.C above, the Permittees may request the Water Board adjust monitoring and reporting dates to synchronize with such efforts.

IV. Annual Reporting Requirements

For each water year (October 1-September 30), Pmittees shall develop and submit an Annual Report by **March 15, 2014** and by **March 15** of

each subsequent year of the permit term. Annual Reports shall include the following elements:

A. Pollutant Load Reduction Reporting

Each Permittee must describe actions taken to fulfill the requirements of Monitoring and Reporting Section I. Specifically, each Permittee's annual report must include a list of catchments registered in the Accounting and Tracking Tool and a summary of applicable condition assessment results for all registered catchments pursuant to Section I.D above.

Each Permittee shall list its total credit award for the previous water year to demonstrate progress at meeting pollutant load reduction requirements.

Each Permittee shall describe load reduction progress in context of its Pollutant Load Reduction Plan (PLRP), including a discussion of whether catchment registration, associated load reduction estimates, and implementation actions are consistent with the submitted and accepted PLRP. Permittees shall discuss any deviations from the accepted PLRP, provide rationale for those deviations, and, if necessary, describe how the Permittee will compensate for any noted shortfalls in expected pollutant load reductions.

B. Storm water Facilities Inspection Report

The annual report shall include a summary report of all storm water facility inspections performed pursuant to Section II.A of this Monitoring and Reporting Program. The report shall include a list of all areas inspected, a description of *any* identified *significant* pollutant sources and/or problem areas, and a discussion of any planned or completed maintenance and/or enforcement follow up activities.

C. Construction Site Inspection Report

The annual report shall include a ~~detailed~~ summary report of all construction inspections performed pursuant to Section II.B of this Monitoring and Reporting Program. The summary report shall include a list of all construction sites inspected, a description of *any* identified *significant* problems, and a discussion of any planned or completed enforcement follow up activities.

D. Commercial, Industrial, and Municipal Site Inspection Report

The annual report shall include a ~~detailed~~ summary of all commercial, industrial, and municipal site inspections performed pursuant to Section II.C of this Monitoring and Reporting Program. The summary shall include a list of all commercial, industrial, and municipal sites inspected, a

description of *any* identified *significant* problems, and a discussion of any planned or completed enforcement follow up activities.

E. Traction Abrasive and Deicing Material Report

The annual report shall include a summary report of the monitoring data collected pursuant to Section II.C of this Monitoring and Reporting Program.

F. Storm water Monitoring Report

By March 15, 2014 *and by **March 15** of each subsequent year of the permit term* ~~of each year of the Permit term~~, each Permittee shall submit a comprehensive electronic report that summarizes cumulative storm water monitoring results from the catchment load monitoring and BMP effectiveness evaluations conducted during the previous water year (October 1 – September 30).

The storm water monitoring report shall include, at a minimum, the following:

1. A discussion of monitoring purpose and study design and the underlying rationale.

2. Details of the data collection methods, sampling protocols and analytical methods including detection limits.

3. Quality Assurance/Quality Control summaries.

4. Maps and descriptions of all monitoring locations including latitude and longitude coordinates and data obtained at each location.

5. Raw analytical data that includes sample identification, collection date, time and analytical reporting results for all collected samples.

6. Documentation of data management procedure.

7. Details of data analysis, calculations and assumptions used to obtain results and draw conclusions.

8. Catchment outlet monitoring - data tables and graphical data summaries that include seasonal total volume (cubic feet), seasonal average concentrations (milligrams/liter and number of particles/liter) and load (kilograms and number of particles) of each pollutant outlined in section III.A.4 of this Monitoring and Reporting Program.

9. Catchment outlet monitoring – provide interpretation of annually collected data relative to modeled average annual estimates and

conduct an assessment of this data in the context of the water year type (wet, average, dry) using the regional meteorological analysis.

10. For long-term catchment monitoring, provide recent data in context with cumulative comparable results from previous years, noting trends. Consider the season type (wet, average, dry,) for each seasonal data point when evaluating trends and inter-annual variability in catchment results. Compare measured pollutant loads with modeled average annual variables ~~and~~

11. For flow-through BMPs - data tables and graphical data summaries of seasonal volume (cubic feet), average inlet and outlet pollutant concentrations (milligrams/liter and number of particles/liter) and pollutant loads (kilograms and number of particles) for each pollutant outlined in section III.B.4 of this Monitoring and Reporting Program. Permittees shall report the seasonal storm water volume (cubic feet) and pollutant load reduced (kilograms and number of particles) for each pollutant for each season of measure.

12. For hydrologic or pollutant source control BMPs - data tables and graphical summaries of seasonal storm water volumes (cubic feet) (hydrologic source control) as a result of the BMP implementation and maintenance or seasonal pollutant mass (kilograms and number of particles) reduced over the area of land surface subject to the chosen BMP for each pollutant described in Section III.B.4. For multi-year BMP evaluations, provide recent data in context with cumulative comparable results from previous years, noting trends.

13. For BMP monitoring – provide interpretation of annually collected data relative to applicable model parameters and conduct an assessment of this data in the context of the water year type (wet, average, dry) using the regional meteorological analysis.

14. A final monitoring summary including the following values for each monitored location.

Season	**Seasonal Volume (cf)**	**Pollutant**	**Seasonal Concentration (mg/L)**	**Seasonal Concentration (# particles/L)**	**Seasonal Load (kg)**
Fall Winter (Oct 1-Feb 28)	x	FSP	x	x	x
		TSS	x		x
		TP	x		x
		TN	x		x
Spring Melt (Mar 1-May 31)	x	FSP	x	x	x
		TSS	x		x
		TP	x		x
		TN	x		x
Summer (June 1-Sept 31)	x	FSP	x	x	x
		TSS	x		x
		TP	x		x

		TN	x		x
Water Year Totals: Total WY precipitation (in/yr) **Water year type: very dry, dry, average, wet, very wet**					
Water Year Total	x	FSP			x
		TSS			x
		TP			x
		TN			x

15. A discussion of lessons learned from storm water monitoring efforts including, but not limited to, catchment water quality improvement strategies, pollutant sources analyses, pollutant fate and transport within sampled catchments, BMP design and/or implementation improvements, and maintenance strategy effectiveness (including techniques or frequency).

16. A discussion of any proposed changes to the storm water monitoring program and the rationale for each proposed change.

If Permittees are working collaboratively to meet the requirements specified in Section III of this Monitoring and Reporting Program, a single report for participating Permittees will be accepted.

Those elements of the monitoring report listed above that do not change from year to year need not be repeated in subsequent annual reports.

G. Illicit Discharge Report

To assess compliance with Permit Sections I.A and III.B.5 each Permittee's annual report shall describe actions taken to prevent unauthorized non-storm water discharges and report any identified illicit discharges to its collection, conveyance, and treatment facilities. The report shall include a description of any education, outreach, or inspection activities conducted pursuant to Permit Sections III.B.1, III.B.2, III.B.3 and III.B.4 that support the Permittee's program to prohibit unauthorized non-storm water discharges.

H. Education Component Report

Each Permittee's annual report shall summarize all training and education activities conducted during the previous year, including a list of all education materials distributed and training provided to the public, to municipal employees, and to construction, commercial, industrial, or municipal site operators.

~~Impacts Influencing Baseline Pollutant Loads Report~~

~~Each Permittee shall provide a statement of findings of the assessment conducted pursuant to Monitoring and Reporting Program Section I.G.~~

I. Provisions

Permittees shall comply with the "General Provisions for Monitoring and Reporting" dated September 1, 1994 that is attached to and made part of this Monitoring and Reporting Program as Attachment G.