

Section 1

Construction Site Best Management Practices (BMPs)

1.1 Introduction

The State of Nevada Department of Transportation (NDOT) has a comprehensive statewide effort to prevent pollution in storm water runoff from NDOT construction projects. NDOT requires contractors to prepare and implement a plan to control water pollution effectively during the construction of all projects within or in the vicinity of Waters of the United States (WOUS) - see Standard Specifications Section 637, Water Pollution.

Projects resulting in one acre (ac) or more of soil disturbance are subject to the State of Nevada Stormwater General Permit (“General Permit”) and are required to prepare and submit a Storm Water Pollution Prevention Plan (SWPPP). When a SWPPP is required for a project, it will satisfy the requirements of Standard Specifications Section 637, in addition to meeting other permit requirements.

Projects in the Lake Tahoe area fall under the jurisdiction of the Tahoe Regional Planning Agency (TRPA). Construction permits are issued by TRPA for all projects and include specific water quality control and other environmental requirements that are often more stringent than those mandated under the General Permit.

1.2 Organization of this Manual

This *Storm Water Quality Handbooks, Construction Site Best Management Practices Manual* (Manual) is intended to provide contractors and NDOT staff with detailed information on how to comply with the “Water Pollution Control” requirements contained in NDOT’s construction contract documents, and in the State of Nevada Division of Environmental Protection (NDEP) permit requirements through the implementation of construction site best management practices (BMPs). This manual is organized as follows:

- **Section 1** introduces the construction site best management practices (BMPs) Manual.
- **Section 2** provides general guidelines for the selection and implementation of construction site BMPs
- **Section 3** provides listing and working details for NDOT construction site BMPs for temporary soil stabilization.
- **Section 4** provides listing and working details for NDOT construction site BMPs for temporary sediment control.

- **Section 5** provides listing and working details for NDOT construction site BMPs for tracking control
- **Section 6** provides listing and working details for NDOT construction site BMPs for non-storm water management.
- **Section 7** provides listing and working details for NDOT construction site BMPs for waste management and materials pollution control.
- **Appendix A** provides a listing of frequently used abbreviations, acronyms, and definitions of terms used throughout this Manual.
- **Appendix B** provides a SWPPP Template that may be used to prepare SWPPPs.
- **Appendix C** provides a Water Pollution Control Plan (WPCP) Template that may be used to prepare WPCPs.

1.3 Requirements for General Permit Sites

1.3.1 Nevada General Construction Permit

On September 16, 2002, the NDEP adopted the *General Permit for Storm Water Discharges Associated with Construction Activity NVR100000*, hereby called “General Permit”. The General Permit complies with provisions of the Federal Clean Water Act as amended (33 U.S.C. 1251 et. set: the “Act”) and Chapter 445A of the Nevada Revised Statutes (NRS).

Under these regulations, owners or operators (contractors) of all proposed private and public construction sites that disturb a total of one or more acres of land are required to obtain coverage under the General Permit. Additionally, the following specific cases require coverage under the General Permit:

- Any land disturbance that is part of a larger common plan of development or sale with a planned disturbance of one acre or greater,
- All temporary plants or operations set up to produce concrete, asphalt or other materials for a permitted construction project (these are permitted with the project but require a separate SWPPP),
- Any repaving operation of one or more acres that creates fine-grained sediments that are not immediately removed from the site and properly disposed of at an acceptable facility, and
- Any construction activity, including sites disturbing less than one acre that are designated by NDEP of the U.S. Environmental Protection Agency (EPA) to have a potential for contribution to a violation of a water quality standard or may significantly contribute pollutants to waters of the United States.

Disturbance is defined as clearing, grading, or excavating underlying and/or surrounding soil as part of a repaving operation. NDEP may also require general permit coverage if repaving operations create loose fine-grained material (e.g. asphalt millings) that is not immediately disposed of and/or is stockpiled on the site. If the material is immediately overlaid or hauled off-site, a permit may not be required depending on site-specific conditions.

Under the General Permit, eligible discharger(s) who have submitted a Notice of Intent (NOI), paid an annual filling fee, and developed and implemented a SWPPP, are authorized to discharge stormwater associated with:

- (1) Construction activity
- (2) Small construction activity
- (3) Industrial activity from temporary concrete, asphalt, and material plants or operations dedicated to the permitted construction project.

The NOI must be filed at least 48 hours before construction begins and the SWPPP must be prepared prior to submittal of the NOI. NDEP has the authority to waive General Permit requirements, such as preparing and implementing a SWPPP for small construction projects that will not have adverse impacts to water quality. Sites between one and five acres that have a rainfall erosivity factor less than five (5) during the period of construction may also be able to obtain a waiver. NDEP has the option not to allow waivers for small construction activity based on other criteria. A worksheet for the small construction site activity waiver may be obtained from the NDEP Bureau of Water Pollution Control Website (Stormwater Resource Information page) and submitted to NDEP for review. Other useful documents such as the NOI form and sample SWPPP can also be found at the website.

1.3.1.1 Storm Water Pollution Prevention Plan (SWPPP)

NDEP requires contractors to comply with the General Permit, and prepare and effectively implement a SWPPP during the construction of all projects. Projects resulting in one acre or more of soil disturbance, or the additional conditions listed in Section 1.3.1, are subject to the General Permit. The SWPPP must be prepared prior to submittal of the NOI and must remain on the project site at all times. The SWPPP must be prepared in accordance with good engineering practices and must consist of the components listed in the General Permit, Part IB, and listed below:

- Project information and description including: site location; type of project; contact information; estimated soil disturbance; and a description of potential receiving waters;
- Description of all proposed and implemented major land disturbing activities;
- Description and sequencing of construction activities;

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- Estimates of total area of the construction site and the area that will be disturbed;
- Estimates of pre- and post-construction runoff coefficients;
- A general location map and detailed site map(s) including drainage patterns, areas of soil disturbance, location of BMPs, borrow and equipment storage areas, and potential receiving waters;
- Description of proposed and implemented erosion, sediment, and waste control practices to be used on the site;
- Description of permanent stormwater management practices that will be installed during the construction process to control pollutants in stormwater discharges after completion of construction operations;
- Documentation of self-inspections, maintenance of BMPs, and corrective actions that will be implemented throughout construction;
- Location and description of any non-stormwater discharges and stormwater discharges from dedicated asphalt and concrete plants located off-site;
- Copy of approved state or local plans, including a copy of the General Permit requirements; and
- Certification by the owner/operator or authorized representative and all contractors who work on the construction site.

A sample SWPPP can be found at the NDEP website. A SWPPP template has been developed in Microsoft® Word 2000 and is included in Appendix B. The objectives of the SWPPP template are:

- (1) Provide easy data entry for owners/contractors to prepare SWPPPs (instructions can be viewed in the template while the SWPPP is being prepared).
- (2) Provide consistency in content and format of all SWPPPs prepared and submitted to NDOT (thus making the SWPPP review process more efficient).

1.3.2 TRPA Construction Permit

As a regulatory agency, the TRPA reviews and permits construction projects, and seeks to minimize environmental impacts of new projects. Permits issued include Standard Conditions of Approval and Special Conditions for individual projects. Permanent and temporary erosion control BMPs are required for applicable projects.

There are numerous differences between typical TRPA construction permit conditions and those in the General Permit. The TRPA permits are issued individually and are

generally more stringent. Contractors are subject to the following requirements for all TRPA approved projects:

- Comply with all conditions of the TRPA permit and the General Permit.
- The contractor's engineer must attend the pre-grade meeting with TRPA and their contract compliance officer to identify all other BMP items required by TRPA.
- Include any additional BMP requirements in the contractor's SWPPP.

1.3.3 NDOT Contract Requirements

All NDOT contracts require contractors to comply with Section 637 of the Standard Specifications and may include Special Provisions for pollution control. These specifications and provisions require contractors to comply with the General Permit for all projects greater than one acre. For all construction projects, Section 637 of the Standard Specifications requires that a Water Pollution Control Plan (WPCP) be submitted to the Engineer no later than 7 days before the pre-construction conference for projects within or in the vicinity of WOUS. For projects that are covered under the General Permit and are within or in the vicinity of WOUS, contractors shall prepare, submit, and effectively implement a SWPPP that fulfills both the General Permit requirements and those in Section 637 for a WPCP.

If revisions to the WPCP or SWPPP are required, as determined by the Engineer, the contractor shall incorporate the revisions. The time frames for WPCP and SWPPP submittal, review, and resubmittal are specified in the Standard Specifications and the project's Special Provisions. No construction activity having the potential to cause water pollution, as determined by the Engineer, shall be performed until the WPCP or SWPPP has been completed to the satisfaction of the Engineer. Construction activities such as traffic control, which will not threaten water quality, may proceed without a SWPPP, if allowed by the Engineer. NDOT will review the WPCP and SWPPP for fulfillment of the terms of the contract only. The contractor is responsible for all regulatory compliance issues and will be responsible for any penalties or fines imposed by the NDEP for regulatory non-compliance.

For sites covered by the General Permit, the contractor is responsible for filing the NOI, and is the responsible permittee with NDEP. This includes being responsible for any fees associated with permit procurement, and for executing the permit requirements, as well as being responsible for any fines levied by a regulatory agency for water management violations.

1.3.3.1 Project Categorization and Temporary Erosion Control Plans

NDOT has adopted a policy of categorizing all construction projects as having no, low, medium or high potential for water quality impacts. The general definitions of each project category are as follows:

- **No impact:** Projects with ground/soil disturbance less than one acre and no direct discharge into WOUS.

- **Low Impact:** Projects with little ground/soil disturbance and low potential for discharge of sediment into WOUS.
- **Medium Impact:** New construction projects with potential discharge of sediments into a WOUS. Ground/soil disturbance is not excessive, construction phasing is simple, and construction duration is usually less than two years.
- **High Impact:** Projects with major ground/soil disturbance; high potential of sediment discharge; complex construction staging; and construction duration is longer than two years. All projects in the Lake Tahoe Basin are classified in this category.

For projects categorized as having no, low, or medium potential impacts, the contractor is responsible for SWPPP development including design of temporary BMPs and temporary erosion control plans.

For projects categorized as having a high potential for water quality impacts, NDOT will develop temporary erosion control plans for temporary BMPs for one possible construction phase and will include bid items in the final project plans and specifications. For these projects, the contractor is then required to employ a Professional Engineer (P.E.) to develop the SWPPP in compliance with the General Permit. Additionally, a P.E. must be responsible for the design of temporary BMPs, as specified within the BMP Fact Sheets included in this manual.

NDOT will include specific temporary BMPs in the design under any of the following conditions:

- The project is categorized as having high potential for water quality impacts,
- Specific construction site (temporary) BMPs are prescribed by the NDEP, TRPA or other environmental permits or certifications,
- The National Environmental Policy Act (NEPA) process has identified sensitive receiving waters or valuable habitats requiring special protection.
- There are site-specific conditions or sources of pollution that would not be adequately addressed by “typical” SWPPP and WPCP deployment strategies.

1.3.3.2 Payment for Pollution Control

The method of payment for pollution prevention will be described in the project’s Special Provisions and are based on the project’s potential environmental impact categorization discussed above. Payment methods are defined as follows:

- **No or Low Impact Projects:** Include a \$5,000.00 lump sum item in the project estimate.
- **Medium Impact Projects:** NDOT will specify minimum BMP implementation standards and a range for the appropriate lump sum payment for these projects.

- **High Impact Projects:** NDOT's Hydraulic section will develop plans for one possible construction phase and include bid items in the final PS&E document. There may be instances for which utilizing the lump sum item and refraining from plan development will be more appropriate.

1.3.4 Requirements for Sites not Covered by the General Permit

Sites that disturb less than one acre of soil are not covered under the General Permit, unless they are designated by NDEP or EPA to have a potential for contribution to violation of a water quality standard or may significantly contribute pollutants to WOUS will also require coverage under the General Permit. The special provisions will identify such projects.

Section 637 of the Standard Specifications requires that a Water Pollution Control Plan (WPCP) be submitted to the Engineer no later than 7 days before the pre-construction conference, regardless of the size of the project if it is within or in the vicinity of WOUS. To help contractors to comply with the requirements of Section 637, a Water Pollution Control Plan (WPCP) short-form has been developed and is shown in Appendix C of this Manual. The form lists all construction BMPs and the contractor then selects (and checks in the form) which BMPs will be implemented during construction. The requirement of Section 637 should be carefully reviewed by the contractor while preparing WPCPs.

1.4 Air Quality Regulations

NDOT projects may also require coverage under various Air Quality or Dust Control Permits. NDOT contractors are responsible for obtaining these permits from the appropriate agency. In Nevada, air quality is regulated by the NDEP or, within Washoe and Clark Counties, by each county's Air Quality Management Divisions. Permit requirements for the different jurisdictions are discussed below.

Air quality permits will also typically require some type of permanent soil stabilization after construction is complete. This stabilization may or may not be sufficient to satisfy the final stabilization requirements of the General Permit. The following methods shall be used to satisfy the final soil stabilization requirement of air quality permits for NDOT Projects:

- In the North areas of the state, seeding, slope paving and application of millings to the shoulders will be the methods of stabilization.
- In southern urban areas, where re-vegetation is not successful, slope paving or rock mulch will be the methods of stabilization for cut and fill slopes. For aesthetic reasons, in an area contained within the landscape master plan, millings are not appropriate.
- In southern rural areas, soil stabilizers, slope paving, or application of millings will be the methods of soil stabilization.

