



## INSPECTION, MAINTENANCE, AND HOUSEKEEPING PLAN

(Prepared by Jayson Haskell, PE #13002)

VINTAGE SUBDIVISION  
626 ROOSEVELT TRAIL  
WINDHAM, MAINE

### Responsible Party

Owner: PTG Properties, Inc.  
75 Lockland Drive  
Windham, Maine 04062

The owner is responsible for the maintenance of all stormwater management structures and related site components and the keeping of a maintenance log book with service records. Records of all inspections and maintenance work performed must be kept on file with the owner and retained for a minimum of five years. The maintenance log will be made available to the Town and Maine Department of Environmental Protection (MDEP) upon request. At a minimum, the maintenance of stormwater management systems will be performed on the prescribed schedule.

The procedures outlined in this plan are provided as a general overview of the anticipated practices to be utilized on this site. In some instances, additional measures may be required due to unexpected conditions. *The Maine Erosion and Sedimentation Control BMP and Stormwater Management for Maine: Best Management Practices* Manuals published by the MDEP should be referenced for additional information.

### During Construction

- 1. Inspection and Corrective Action:** It is the contractor's responsibility to comply with the inspection and maintenance procedures outlined in this section. Inspection shall occur on all disturbed and impervious areas, erosion control measures, material storage areas that are exposed to precipitation, and locations where vehicles enter or exit the site. These areas shall be inspected at least once a week as well as 24 hours before and after a storm event generating more than 0.5 inch of rainfall over a 24-hour period and prior to completing permanent stabilization measures. A person with knowledge of erosion and stormwater control, including the standards and conditions in the permit, shall conduct the inspections.
- 2. Maintenance:** Erosion controls shall be maintained in effective operating condition until areas are permanently stabilized. If best management practices (BMPs) need to be repaired, the repair work should be initiated upon discovery of the problem but no later

than the end of the next workday. If BMPs need to be maintained or modified, additional BMPs are necessary, or other corrective action is needed, implementation must be completed within seven calendar days and prior to any rainfall event.

3. **Snow Storage:** The proposed permeable pavers shall not be utilized for snow storage.
4. **Documentation:** A report summarizing the inspections and any corrective action taken must be maintained on site. The log must include the name(s) and qualifications of the person making the inspections; the date(s) of the inspections; and the major observations about the operation and maintenance of erosion and sedimentation controls, materials storage areas, and vehicle access points to the parcel. Major observations must include BMPs that need maintenance, BMPs that failed to operate as designed or proved inadequate for a particular location, and location(s) where additional BMPs are needed. For each BMP requiring maintenance, BMP needing replacement, and location needing additional BMPs, note in the log the corrective action taken and when it was taken. The log must be made accessible to MDEP and Town staff, and a copy must be provided upon request. The owner shall retain a copy of the log for a period of at least three years from the completion of permanent stabilization.

### **Housekeeping**

1. **Spill prevention:** Controls must be used to prevent pollutants from construction and waste materials on site to enter stormwater, which includes storage practices to minimize exposure of the materials to stormwater. The site contractor or operator must develop, and implement as necessary, appropriate spill prevention, containment, and response planning measures.
2. **Groundwater protection:** During construction, liquid petroleum products and other hazardous materials with the potential to contaminate groundwater may not be stored or handled in areas of the site draining to an infiltration area. An "infiltration area" is any area of the site that by design or as a result of soils, topography and other relevant factors accumulates runoff that infiltrates into the soil. Dikes, berms, sumps, and other forms of secondary containment that prevent discharge to groundwater may be used to isolate portions of the site for the purposes of storage and handling of these materials. Any project proposing infiltration of stormwater must provide adequate pre-treatment of stormwater prior to discharge of stormwater to the infiltration area, or provide for treatment within the infiltration area, in order to prevent the accumulation of fines, reduction in infiltration rate, and consequent flooding and destabilization.
3. **Fugitive sediment and dust:** Actions must be taken to ensure that activities do not result in noticeable erosion of soils or fugitive dust emissions during or after construction. Oil may not be used for dust control, but other water additives may be considered as needed. A stabilized construction entrance (SCE) should be included to minimize tracking of mud and sediment. If off-site tracking occurs, public roads should be swept immediately and

no less than once a week and prior to significant storm events. Operations during dry months, that experience fugitive dust problems, should wet down unpaved access roads once a week or more frequently as needed with a water additive to suppress fugitive sediment and dust.

4. **Debris and other materials:** Minimize the exposure of construction debris, building and landscaping materials, trash, fertilizers, pesticides, herbicides, detergents, sanitary waste and other materials to precipitation and stormwater runoff. These materials must be prevented from becoming a pollutant source.
5. **Excavation de-watering:** Excavation de-watering is the removal of water from trenches, foundations, coffer dams, ponds, and other areas within the construction area that retain water after excavation. In most cases the collected water is heavily silted and hinders correct and safe construction practices. The collected water removed from the ponded area, either through gravity or pumping, must be spread through natural wooded buffers or removed to areas that are specifically designed to collect the maximum amount of sediment possible, like a cofferdam sedimentation basin. Avoid allowing the water to flow over disturbed areas of the site. Equivalent measures may be taken if approved by the Department.
6. **Authorized Non-stormwater discharges:** Identify and prevent contamination by non-stormwater discharges. Where allowed non-stormwater discharges exist, they must be identified and steps should be taken to ensure the implementation of appropriate pollution prevention measures for the non-stormwater component(s) of the discharge. Authorized non-stormwater discharges are:
  - (a) Discharges from firefighting activity;
  - (b) Fire hydrant flushings;
  - (c) Vehicle washwater if detergents are not used and washing is limited to the exterior of vehicles (engine, undercarriage and transmission washing is prohibited);
  - (d) Dust control runoff in accordance with permit conditions and Appendix (C)(3);
  - (e) Routine external building washdown, not including surface paint removal, that does not involve detergents;
  - (f) Pavement washwater (where spills/leaks of toxic or hazardous materials have not occurred, unless all spilled material had been removed) if detergents are not used;
  - (g) Uncontaminated air conditioning or compressor condensate;
  - (h) Uncontaminated groundwater or spring water;
  - (i) Foundation or footer drain-water where flows are not contaminated;
  - (j) Uncontaminated excavation dewatering (see requirements in Appendix C(5));
  - (k) Potable water sources including waterline flushings; and
  - (l) Landscape irrigation.
7. **Unauthorized non-stormwater discharges:** Approval from the Town does not authorize a discharge that is mixed with a source of non-stormwater, other than those discharges

in compliance with Section 6 above. Specifically, the Town's approval does not authorize discharges of the following:

- (a) Wastewater from the washout or cleanout of concrete, stucco, paint, form release oils, curing compounds or other construction materials;
- (b) Fuels, oils or other pollutants used in vehicle and equipment operation and maintenance;
- (c) Soaps, solvents, or detergents used in vehicle and equipment washing; and
- (d) Toxic or hazardous substances from a spill or other release.

### **Post Construction**

1. **Inspection and Corrective Action:** All stormwater measures must be maintained by the owner in effective operating condition. A qualified inspector shall at least annually inspect the stormwater management facilities. This person should have knowledge of erosion and stormwater control including the standards and conditions of the site's approvals. The following areas, facilities, and measures must be inspected, and identified deficiencies must be corrected. Areas, facilities, and measures other than those listed below may also require inspection on a specific site.
  - A. **Vegetated Areas:** Inspect vegetated areas, particularly slopes and embankments, early in the growing season or after heavy rains to identify active or potential erosion problems. Replant bare areas or areas with sparse growth. Where rill is evident, armor the area with an appropriate lining or divert the erosive flows to on-site areas able to withstand the concentrated flows.
  - B. **Ditches, Swales, and Open Channels:** Inspect ditches, swales, and other open channels in the spring, late fall, and after heavy rains to remove any obstructions to flow, remove accumulated sediments and debris, control vegetative growth that could obstruct flow, and repair any erosion of the ditch lining. Vegetated ditches must be mowed at least annually or otherwise maintained to control the growth of woody vegetation and maintain flow capacity. Repair any slumping side slopes as soon as practicable. The channel must receive adequate routine maintenance to maintain capacity and prevent or correct any erosion of the channel's bottom or side slopes.
  - C. **Permeable Pavers:** Pavers should be inspected frequently during the first three (3) months following construction to ensure proper function. After each significant storm event, check for surface ponding that could indicate failure due to clogging. Then, the system should be inspected annually. Prevent any erosion upgradient of the paver system prevent vehicles with muddy wheels from accessing these areas to prevent clogging of the system. Sweep, vacuum and/or pressure wash pavers twice annually at a minimum. Remove leaves and organic debris in the fall. Measures shall also be taken to ensure that these areas do not receive a future overlay of pavement.

Limit salt use for deicing and do not use sand in these areas. In addition, no vehicular maintenance shall be performed, including car washing, within 10 feet of pervious pavement areas. Routine inspections should also be performed of the paved surfaces for evidence of chronically leaking vehicles. If evidence of leaks is connected to a particular vehicle, this vehicle should be required to park no less than 10 feet from the pervious paver areas.

- D. Roofline Drip edges:** The drip edges should be inspected semi-annually and following major storm events for the first year and every six months thereafter. The reservoir crushed stone should drain within 24 to 48 hours following a major storm event. If ponding exceeds 48 hours, the stone reservoir course shall be removed and the filter bed be rototilled to reestablish the soil's filtration capacity. If water ponds in the reservoir course for more than 72 hours, the top several inches of the filter shall be replaced with fresh material. Inspect for debris and sediment build up at surface and remove as needed. The drip edges are part of the stormwater management plan and cannot be paved over or altered in anyway.
- E. Regular Maintenance:** Clear accumulations of winter sand along paved roadway once a year, preferably in the spring. Accumulations on pavement may be removed by pavement sweeping. Accumulations of sand along pavement shoulders may be removed by grading excess sand to the pavement edge and removing it manually or by a front-end loader.
- F. Documentation:** Keep a log (report) summarizing inspections, maintenance, and any corrective actions taken. The log must include the date on which each inspection or maintenance task was performed, a description of the inspection findings or maintenance completed, and the name of the inspector or maintenance personnel performing the task. If a maintenance task requires the clean-out of any sediments or debris, indicate where the sediment and debris was disposed after removal. The log must be made accessible to Town staff upon request. The permittee shall retain a copy of the log for a period of at least five years from the completion of permanent stabilization. Attached is a sample log.

#### **MDEP Re-certification**

Submit a certification of the following to the MDEP within three months of the expiration of each five-year interval from the date of issuance of the permit.

(a) **Identification and repair of erosion problems.** All areas of the project site have been inspected for areas of erosion, and appropriate steps have been taken to permanently stabilize these areas.

(b) **Inspection and repair of stormwater control system.** All aspects of the stormwater control system have been inspected for damage, wear, and malfunction,

and appropriate steps have been taken to repair or replace the system, or portions of the system.

(c) **Maintenance.** The erosion and stormwater maintenance plan for the site is being implemented as written, or modifications to the plan have been submitted to and approved by the Department, and the maintenance log is being maintained.

#### **Town of Windham Re-certification**

As a requirement of the Town, the stormwater infrastructure shall be inspected yearly by a qualified third party inspector. The third party inspector shall perform an initial inspection to determine the status of the stormwater management facilities. If the initial inspection identifies any deficiencies with the facilities, the same third party inspector shall re-inspect the facilities after they have been maintained or repaired to determine if they are performing as intended. Once the site is satisfactory, the third party inspector shall submit the Annual Stormwater Management Facilities Certification form and report to the Office of Code Enforcement. The certification form shall be submitted to the Town prior to May 1 of each year. A copy of the approval form has been included at the end of this document.

#### **Duration of Maintenance**

Perform maintenance as described.

## INSPECTION AND MAINTENANCE LOG

### VINTAGE SUBDIVISION 626 ROOSEVELT TRAIL, WINDHAM, MAINE

The following stormwater management and erosion control items shall be inspected and maintained as prescribed in the Maintenance Plan with recommended frequencies as identified below. The owner is responsible for keeping this maintenance log on file for a minimum of five years and shall provide a copy to the Town upon request. Inspections are to be performed by a qualified third-party inspector and all corrective actions shall be performed by personnel familiar with stormwater management systems and erosion controls.

Maintenance Item	Maintenance Event	Date Performed	Responsible Personnel	Comments
Vegetated Areas	Inspect slopes and embankments early in Spring.			
Ditches, swales, and other open channels	Inspect after major rainfall event producing 1" of rain in two hours.			
	Inspect for erosion or slumping & repair			
	Mowed at least annually.			
Permeable Pavers	Inspect annually for surface ponding or significant sediment.			
	Inspect upgradient areas for erosion.			
	Clear accumulated sediment twice annually.			
	Remove leaves and organic debris in the fall.			
	Ensure paver areas are not paved over.			
Roofline Dripedges	Check after each rainfall event to ensure that the stone reservoir drains within 24-48 hours.			
	Replace top several inches of filter if reservoir does not drain within 72 hours.			
	Inspect and remove sediment or debris build up on the surface of the stone			
	Inspect semi-annually for erosion or sediment accumulation and repair as necessary.			
Regular Maintenance	Clear accumulation of winter sand in paved areas annually.			