


A variety of maintenance activities are typical of GB-GSs. The maintenance activities range in magnitude from routine trash pickup to the reconstruction of the GB-GS or underdrain system. Below is a description of each maintenance activity, the objectives, and frequency of actions.

GB-GS-3.5 Routine Maintenance Activities

The majority of this work consists of scheduled mowing, trash and debris pickups and landscape care for the GB-GS during the growing season. It also includes activities such as weed control. These activities normally will be performed numerous times during the year. These items do not require any prior approval by the El Paso County, however, completed inspection and maintenance forms shall be submitted to the El Paso County for each inspection and maintenance activity in accordance with the Inspection and Maintenance plan.

The Routine Maintenance Activities are summarized below, and further described in the following sections.

**Table GB-GS-2
Summary of Routine Maintenance Activities**

Maintenance Activity	Minimum Frequency	Indication Action is Needed:	Maintenance Action
Trash/Debris Removal	Twice annual and before mowing	Trash & debris in GB-GS	Remove and properly dispose of trash and debris
Mowing	Routine – as necessary to maintain 2” – 4” grass height	Excessive grass height/aesthetics	2”-4” grass height for turf grass; 4” to 6” for native grass
 Irrigation (Automatic)	Three times annually	Areas of insufficient or excess watering; broken or missing parts	SPRING: start up system; test for even coverage and correct timer settings SUMMER: test for even coverage and correct timer settings FALL: drain and winterized system (follow watering regulations)
Irrigation (Not Automatic)	As needed to maintain healthy grass	Areas of insufficient or excess watering	Water as needed to maintain healthy grass; (follow watering regulations)
Weed Control	Minimum twice annually	Noxious weeds; Unwanted vegetation	Treat w/herbicide or hand pull; consult a local Weed Inspector
Mosquito Treatment	As needed, based upon inspections	Standing water/ mosquito habitat	Perform maintenance to eliminate standing water*; Treat w/ EPA approved chemicals
Level Spreader (Grass Buffer only)	As needed, based upon inspections	Evidence of uneven flow/localized erosion	Look for cause; repair, fill or revegetate areas of erosion
Rodent Damage	As needed, based upon inspections	Holes, small piles of dirt, raised burrows	Evaluate damage; contact Parks Dept. or Division of Wildlife for guidance

*See Section GB-GS-2.3.1d for further discussion

accordance with the manufacturer's recommendations.

Frequency – Routine – As needed based upon inspections.

GB-GS-3.5.5 Mosquito Treatment

GB-GS facilities are intended to drain, and should not have areas of standing water which creates mosquito habitat. Causes of the standing water or boggy conditions should be investigated and remediated as necessary to eliminate the standing water. Only EPA approved chemicals should be applied in accordance with the recommendations of the manufacturer. See Section GB-GS-2.3.1d.

Frequency – As needed based upon inspections.

GB-GS-3.5.6 Level Spreader (Grass Buffer only)

Evidence of uneven flow and localized erosion downstream of the level spreader indicates the flow is not evenly distributed along the length of the spreader. Areas of erosion should be repaired, filled and revegetated. Causes for the erosion should be investigated and repaired.

Frequency – As needed based upon inspections.

GB-GS-3.5.7 Rodent Damage

Small holes, piles of dirt, and raised burrows are evidence of rodent damage. Damaged areas should be repaired and revegetated. Consultation with an animal control specialist or the Division of Wildlife may be required for persistent problems.

Frequency – As needed based on inspections.

GB-GS-3.6 Minor Maintenance Activities

This work consists of a variety of isolated or small-scale maintenance/operational problems. Most of this work can be completed by a small crew, hand tools, and small equipment. These items require approval by the El Paso County. Completed inspection and maintenance forms shall be submitted to the El Paso County for each inspection and maintenance activity. These minor maintenance activities are to be used for the grass swales, grass buffers, channels, and riprap berms onsite as applicable and deemed necessary by inspection. Maintenance activities for drainage facilities include mowing, trash/debris removal, outlet works cleaning, & weed control. For additional detail on these activities, see table GB-GS-2 above.

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new poured-in-place concrete, and sod. Extreme care should be taken when utilizing motorized or heavy equipment to ensure damage to the underdrain system, if present, does not occur. Major erosion in a GS-GB is generally the result of excessive velocities caused by steep slopes. It may be necessary to make design improvements to the swale or buffer when erosion becomes a major maintenance item.

Frequency – As necessary, based upon inspections.

GB-GS-3.6.3 Vegetation Removal

Weeds, Shrubs, Willows and other unwanted vegetation that develops in the grass swale or buffer area may impede the flow and cause standing water or back flow problems. It is necessary to remove unwanted vegetation as soon as it appears. Remove the unwanted vegetation, and restore the correct grade. Revegetate with seed or sod. Supplement irrigation as needed until new vegetation is sufficiently established.

Frequency – As necessary, based upon inspections.

GB-GS -3.6.4 Revegetation

Bare areas should be repaired as soon as possible. Repair bare areas with appropriate grass seed or sod. Supplement irrigation as needed until new vegetation is sufficiently established. Causes of the problem, such as inadequate water supply or diseased grasses, should be investigated and resolved.

Frequency – As necessary, based upon inspections.

GB-GS-3.6.5 Irrigation (Automatic) ●

Irrigation systems require routine maintenance in accordance with the manufacturer's recommendations (valves, timer, etc.), and maintenance of the pipe and heads to ensure even coverage is being applied, and there are no missing or broken parts. Timing systems should be checked to verify the correct amount of water is being applied to the grassed areas for the seasonal conditions.

Frequency – As necessary, based upon inspections.

GB-GS-3.6.6 Level Spreader

Level Spreaders that are no longer level, or have developed damaged areas of cracking or spalling, allow flows to concentrate in these depressed areas instead of being distributed over the length of the structure. Also, build up of grasses