

## CHECKLIST FOR INSPECTION OF BIORETENTION SYSTEM/TREE FILTERS

Location: University of Chicago, Study Hotel, 1227 E 60<sup>th</sup> St.

Inspector: Chris Bourbois

Date: July 27<sup>th</sup> 2023

Time: 4:30 PM

Site Conditions: Sunny, 89°

Days Since Last Rain Event: 1

Inspection Items	Satisfactory (S) or Unsatisfactory (U)	Comments/Corrective Action
<b>1. Initial Inspection After Planting</b>		Vegetation on-site is healthy and dense, mostly of native and ornamental species. There is no evidence of preferential flow beyond the engineered topography of the site. The outlet drain is functional and its surroundings are well vegetated.
Plants are stable, roots not exposed	Ⓢ      U	
Surface is at design level, no evidence of preferential flow/shoving	Ⓢ      U	
Inlet and outlet/bypass are functional	Ⓢ      U	
<b>2. Debris Cleanup (1 time/year minimum, Spring/Fall)</b>		No dead vegetation, litter, or excess leaves on site. However, mowing would likely be helpful in at least one spot here. There is a colony of crown vetch that is large enough that repeated late-spring mowings over the course of multiple years would likely help control it.
Litter, leaves, and dead vegetation removed from the system	Ⓢ      U	
Prune/mow vegetation	S      Ⓢ	
<b>3. Standing Water (1 time/year and/or after large storms)</b>		No standing or pooled water one day after rain. Drain areas are well vegetated and have no bare ground or other evidence of water pooling around them.
No evidence of standing water after 24-48 hours since rainfall	Ⓢ      U	
<b>4. Vegetation Condition and Coverage</b>		Vegetation condition is generally very good, especially considering the large size of the installation. Native vegetation includes sedges, sunflowers, nodding wild onion, blazing star, switchgrass, brome, side oats grama and pale purple coneflower. Native trees and shrubs include river birch, juniper, and swamp white oaks. However, there are a few invasive species that may present a growing problem. These include small populations of teasel, reed canary grass, and yellow sweet clover, and more substantial populations of thistle and crown vetch. Also on site are weedier species like fleabane and dandelion and field weeds like marestail and curled dock.
Vegetation condition good with good coverage (typically >75%)	Ⓢ      U	
<b>5. Other Issues</b>		

Note any additional issues not previously covered	S U	
Final Comments		
<p>This site is in pretty good shape overall, especially considering the size of the management area. There are a number of effective structural choices here, including filling the area underneath the boardwalk with rocks. This provides some visual intrigue while also allowing less space for invasive species to establish. This is particularly important in an area like this that is shaded and marginal for the typical prairie/wetland species usually featured in rain gardens. Additionally, this site features a much fuller selection of native plants than many others inventoried. The site has significant native grass populations of multiple species, including brome, switchgrass, and side oats grama. It also has a number of ornamental shrubs and native shrubs (like juniper), and multiple wet-adapted native trees, including swamp white oak and river birch. This sort of three leveled native plant community is rare among the rain gardens inventoried for this project and likely makes it significantly more effective as a pollinator/wildlife haven. The combination of native plants and tough but attractive ornamentals (like russian sage) also means that there is very little space available for invasives. Although there are some invasives present, the lack of bare ground for them to take advantage of has kept their populations smaller than expected, given that a few of the invasives on site are notoriously aggressive (yellow sweet clover, crown vetch, teasel, reed canary grass). Although the effective design and installation choices made here have kept this site in good shape despite the invasive pressure, the fact that invasive pressure still exists goes to show that maintenance will always be necessary. As seen at other sites, the culverts/stormwater inflow areas present the biggest problems, as there is no way for a land manager to prevent invasive seeds from being brought into the system by stormwater. However, the strong native plant community on site should make it easier to get a hold on these problems. A combination of repeated, specifically-timed mowing on some plants (crown vetch), herbicide on others (reed canary grass), and timed pulling/seedhead cutting on others (yellow sweet clover, teasel) would help get these populations under control. The bare ground caused by eliminating these species would also need to be cared for though, potentially by spreading seeds collected on site (switchgrass would be good as a hardy and effective colonizer of bare ground) or by planting plugs.</p>		