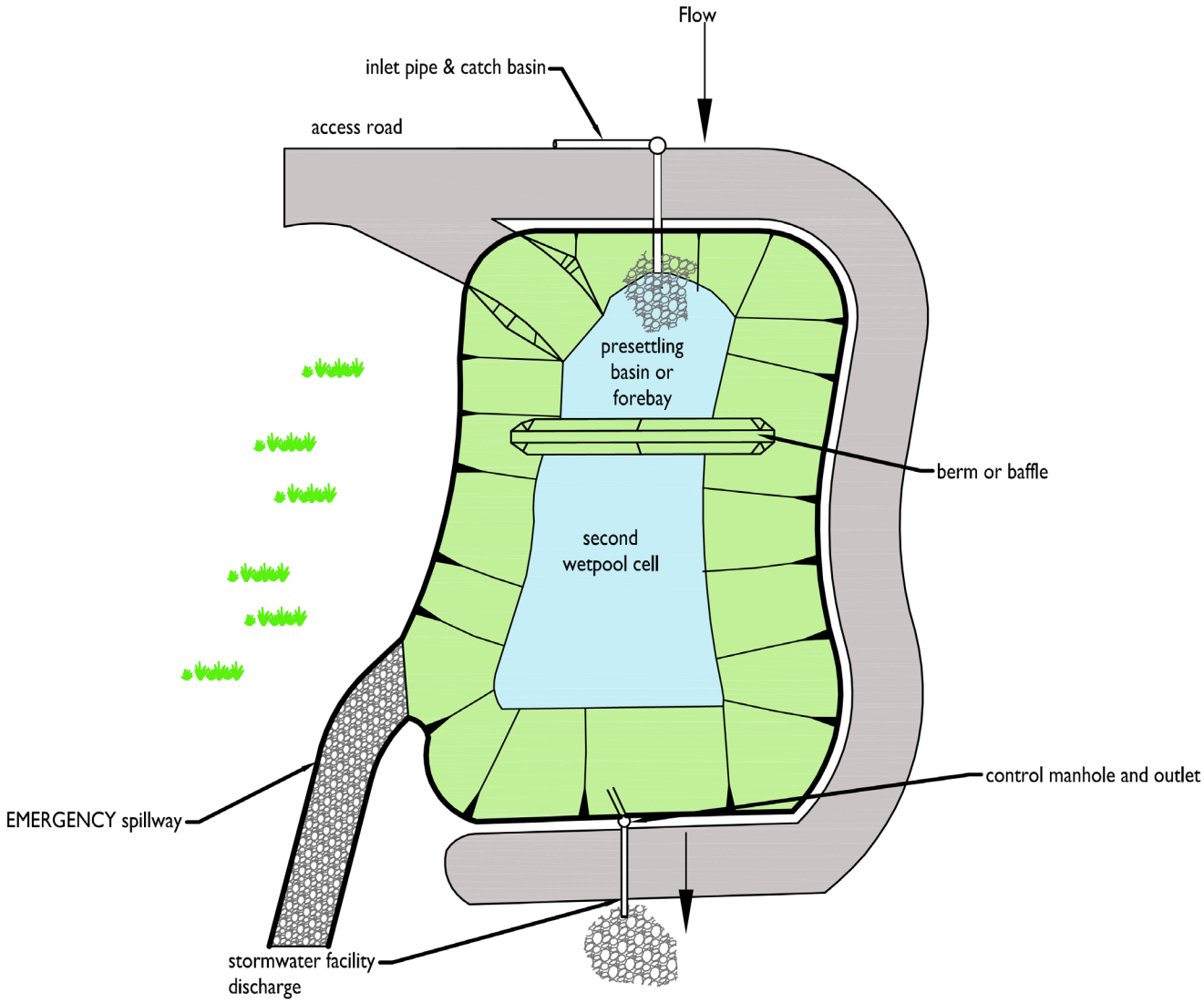
Wetpond

A wetpond is an open basin that retains a permanent pool of water (wetpool) year round or only during the wet season. The volume of the wetpond allows sediment and other pollutants to settle out of the runoff. Wetland vegetation is typically planted within the wetpond to provide additional treatment through nutrient (i.e. nitrogen) removal. Detention quantity control can be provided with additional temporary storage volume above the permanent pool elevation.

Facility objects that are typically associated with a wetpond include:

- access road or easement
- fence, gate, and water quality sign
- detention pond
- control structure/flow restrictor
- energy dissipaters
- debris barrier (e.g. trash rack)
- conveyance stormwater pipe



Key Operations and Maintenance Considerations

- Maintenance is of primary importance if wetponds are to continue to function well.
- Site vegetation should be trimmed as necessary to keep the pond free of leaves and to maintain the aesthetic appearance of the site. Slope areas that have become bare should be revegetated and eroded areas should be regraded prior to being revegetated.
- Sediment should be removed when the standards in the defect table are exceeded. Sediments must be disposed in accordance with current local health department requirements and the Minimum Functional Standards for Solid Waste Handling. For additional guidance see Book 3, Appendix 3-E, Recommendations for Management of Street Waste.
- Any standing water removed during the maintenance operation must be properly disposed of. The preferred disposal option is discharge to a sanitary sewer at an approved location. Other disposal options include discharge back into the wetpool facility or the storm sewer system if

certain conditions are met. For additional guidance see Book 3, Appendix 3-E, Recommendations for Management of Street Waste.

- If a shallow marsh has established, then contact Clark County Department of Environmental Services for advice.
- Common tools for cleaning wetponds are small bulldozers and excavators to remove built-up sediment and debris from the bottom of the pond.

Plant Material

Table 2: Emergent Wetland Plant Species Acceptable for Wetponds

Inundation to 1 Foot			Table continues on next page
Botanical Name	Common Name	Notes	Max. Depth
Agrostis exarata[(1)]	Spike bent grass	Prairie to coast	to 2 feet
Carex stipata	Sawbeak sedge	Wet ground	
Eleocharis palustris	Spike rush	Margins of ponds, wet meadows	to 2 feet
Glyceria occidentalis	Western mannagrass	Marshes, pond margins	to 2 feet
Juncus tenuis	Slender rush	Wet soils, wetland margins	
Oenanthe sarmentosa	Water parsley	Shallow water along stream and pond margins; needs saturated soils all summer	
Scirpus atrocinctus (formerly S. cyperinus)	Woolgrass	Tolerates shallow water; tall clumps	
Scirpus microcarpus	Small-fruited bulrush	Wet ground to 18 inches depth	18 inches
Sagittaria latifolia	Arrowhead		
Inundation 1 to 2 feet			
Botanical Name	Common Name	Notes	Max. Depth
Agrostis exarata[(1)]	Spike bent grass	Prairie to coast	
Eleocharis palustris	Spike rush	Margins of ponds, wet meadows	
Glyceria occidentalis	Western mannagrass	Marshes, pond margins	
Juncus effusus	Soft rush	Wet meadows, pastures, wetland margins	
Scirpus microcarpus	Small-fruited bulrush	Wet ground to 18 inches depth	18 inches
Sparganium emmersum	Bur reed	Shallow standing water, saturated soils	
Inundation 1 to 3 feet			
Botanical Name	Common Name	Notes	Max. Depth
Carex obnupta	Slough sedge	Wet ground or standing water	1.5 to 3 feet

Beckmania syzigachne[1]	Western sloughgrass	Wet prairie to pond margins	
Scirpus acutus[2]	Hardstem bulrush	Single tall stems, not clumping	to 3 feet
Scirpus validus[2]	Softstem bulrush		
Inundation Greater Than 3 feet			
Botanical Name	Common Name	Notes	Max. Depth
Nuphar polysepalum	Spatterdock	Deep water	3 to 7.5 feet
Acceptable Seed Mix for Wet Ponds / Wet Pools			
Species	Common Name	% by Weight	
Scirpus acutus	Hardstem bulrush	9%	
Juncus effusus	Soft rush	9%	
Carex stipata	Awl sedge	29.5%	
Glyceria occidentalis	Western mannagrass	25%	
Eleocharis palustris	Creeping spike rush	15%	
Eleocharis ovata	Ovoid spike rush	9%	
Carex abnupta	Slough sedge	3.5%	
Selected plants shall not include any plants from the State of Washington Noxious Weed List. Refer to clark.wa.gov/weed/ for a current list of noxious weeds.			

[1] Non-native species. Native species are preferred.

[2] *Scirpus* tubers must be planted shallower for establishment, and protected from foraging waterfowl until established. Emerging aerial stems should project above water surface to allow oxygen transport to the roots.

Primary sources: Municipality of Metropolitan Seattle, Water Pollution Control Aspects of Aquatic Plants, 1990. Hortus Northwest, Wetland Plants for Western Oregon, Issue 2, 1991. Hitchcock and Cronquist, Flora of the Pacific Northwest, 1973.

Wetpond			
Drainage System Feature	Potential Defect	Conditions When Maintenance Is Needed	Minimum Performance Standard
General	Water level	First cell is empty, doesn't hold water.	First cell lined to maintain at least 4 feet of water. Although the second cell may drain, the first cell must remain full to control turbulence of the incoming flow and reduce sediment re-suspension.
	Trash and Debris	Accumulation that exceeds 1 CF per 1000-SF of pond area.	Trash and debris removed from pond.
	Inlet/Outlet Pipe	Inlet/Outlet pipe clogged with sediment and/or debris.	Material has been removed and there is no clogging or blockage in the inlet and outlet area.
	Sediment Accumulation in Pond Bottom	Sediment accumulations in pond bottom that exceeds the depth of sediment zone plus 6-inches, usually in the first cell.	Sediment level in pond bottom is within the depth of specified sediment zone.
	Oil Sheen on Water	Prevalent and visible oil sheen.	Oil not present on pond surface. Oil has been removed from water using oil-absorbent pads or Vactor® truck. Source of oil located and corrected. If chronic low levels of oil persist, plant wetland plants such as *Juncus effusus* (soft rush) which can uptake small concentrations of oil.
	Erosion	Erosion of the pond's side slopes and/or scouring of the pond bottom, which exceeds 6-inches, or where continued erosion is prevalent.	Slopes stabilized using proper erosion control measures and repair methods.
	Settlement of Pond Dike/Berm	Any part of these components that has settled 4-inches or lower than the design elevation, or inspector determines dike/berm is unsound.	Dike/berm is repaired to design specifications.
	Internal Berm	Berm dividing cells should be level.	Berm surface is leveled so that water flows evenly over entire length of berm.
	Overflow Spillway	Rock is missing and soil is exposed at top of spillway or outside slope.	Rocks replaced to design specifications.