ction. The plan below describes rvices or City representative for	✓ Task Complete Comments					
nce Plan y basis to ensure proper fun n engineer, Clean Water Se	Maintenance Timing	SPRING SUMMER FALL WINTER	SPRING SUMMER FALL WINTER	SPRING WINTER	SPRING WINTER Inspect after major storm (1-inch in 24 hours)	SPRING SUMMER FALL
nd Operation and Maintenance Plan ided that the facility is inspected on a monthly basis to ensused as an inspection log. Contact the design engineer, C	Maintenance Activity	Remove trash and debris from facility. Dispose of properly	Locate source of contamination and correct. Remove oil using oil-absorbent pads or vactor truck. If low levels of oil persist plant wetland plants that can uptake small concentrations of oil such as Juncus effuses. (soft rush) If high levels of contaminants or pollutants are present, coordinate removal/cleanup with local jurisdiction.	Repair eroded areas and stabilize using proper erosion control measures. Establish appropriate vegetation as needed.	Remove blockages from facility.	Remove excessive weeds and all invasive plants. Attempt to control even if complete eradication is not feasible. Refer to Clean Water Services Integrated Pest Management Plan for appropriate control methods, including proper use of chemical treatment.
Constructed Water Quality Wetland Operation and Maintenance Plan Annual inspections are required. It is recommended that the facility is inspected on a monthly basis to ensure proper function. The plan below describes inspection and maintenance activities, and may be used as an inspection log. Contact the design engineer, Clean Water Services or City representative for more information.	Condition to Check for	Visual evidence of trash, debris or dumping	Evidence of oil, gasoline, or other contaminants. Look for signs such as sheens or odors.	Erosion or channelization that impacts or effects the function of the facility or creates a safety concern	Material such as vegetation, sediment, trash is blocking more than 10% of inlet/outlet pipe or basin opening	Invasive vegetation found in facility. Examples include: Himalayan Blackberry; Reed Canary Grass; Teasel; English Ivy; Nightshade; Clematis; Cattail; Thistle; Scotch Broom
Constructed Wa Annual inspections are inspection and maintena more information.	Identified Problem	Trash and Debris	Contaminants and Pollution	Erosion	Obstructed Inlet/Outlet or basin opening	Invasive Vegetation as outlined in Appendix A

Constructed Water Quality Wetland Operation and Maintenance Plan (continued) Annual inspections are required. It is recommended that the facility is inspected on a monthly basis to ensure proper function. The plan below describes

Tree/Shrub Growth Tree/Shrub growth shades out wetland remained and provide a control of a contr	inspection and maintena more information.	inspection and maintenance activities, and may be used as a more information.	used as an inspection log. Contact the design engineer, Clean Water Services or City representative for	ı engineer, Clean Water Serv	ices or City representative for
Tree/shrub growth shades out wetland' emergent grass in treatment area. Interferes with access for maintenance inspection 80% survival of approved vegetation and no bare areas large enough to affect function of facility. 80% survival of approved vegetation and no bare areas large enough to affect function of facility. 80% survival of approved vegetation between the condition. Sediment accumulation or competition with invasive vegetation could be cause. Replant with plugs or containerized plants per the approved planting plan and applicable standards at time of construction. Remove excessive weeds and all invasive plants. Evidence of rodents, or water piping three or removal requirements. Evidence of rodents, or water piping three or removal requirements. Harmful insects present such as wasps and homest staft interfere with maintenance/inspection activities and homest staft interfere with readment shape and depth; re-seed if necessary area.	ldentified Problem	Condition to Check for	Maintenance Activity	Maintenance Timing	Task Complete Comments
Replant with plugs or competition with invasive vegetation or competition with and correct the condition. Sediment accumulation or competition with invasive vegetation could be cause. Replant with plugs or containerized plants per the approved planting plan and applicable standards at time of construction. Remove excessive weeds and all invasive plants. Evidence of rodents, or water piping through facility via rodent holes. Evidence of rodents, or water piping through facility via rodent holes. Evidence of rodents, or water piping through facility via rodent holes. Evidence of rodents, or water piping through facility via rodent holes. Remove hazard trees. A Certified Arborist may need to determine health of tree or removal requirements. Remove hazard trees. A Certified Arborist may need to determine health of tree or removal requirements. Remove hazard trees. A Certified Arborist may need to determine health of tree or removal requirements. Remove hazard trees. A Certified Arborist may need to determine health of tree or removal requirements. Remove hazard trees. A Certified Arborist may need to determine health of tree or removal requirements. Repair facility if damaged. Remove Harmful insects present such as wasps are and hornest station activities. Repair facility if amaged. Remove Harmful insects interfere with Plantful insects present such as wasps area. Remove hazard trees. A Certified Arborist may need to determine health of tree or removal requirements. Remove hazard trees. A Certified Arborist may need to determine health of tree or removal requirements. Remove hazard trees. A Certified Arborise weeds intensity or replant to achieve the control enosion, or replant to achieve treatment the promote the cause. Remove accessive weeds in the cause. Remove the approved planting plan	Tree/Shrub Growth	Tree/shrub growth shades out wetland/ emergent grass in treatment area. Interferes with access for maintenance/ inspection	Prune trees and shrubs that block sun from reaching treatment area. Remove trees that block access points. Do not remove trees that are not interfering with access or maintenance without first contacting Clean Water Services or local City.	winter	
Observed dead, dying or diseased trees Remove hazard trees. A Certified Arborist may need to determine health of tree or removal requirements. Evidence of rodents, or water piping through facility via rodent holes. Harmful insects present such as wasps and hornets that interfere with maintenance/inspection activities mulation in Sediment depth in wetland bottom area Remove hazard trees. A Certified Arborist may need to determine health of tree or removal requirements. Repair facility if damaged. Remove hazard in each water harmful insects present such as wasps and hornets that interfere with maintenance/inspection activities Mulation in Sediment depth in wetland bottom acceeds 6 inches or affects inlet/outlet shape and depth; re-seed if necessary area treatment.	Poor Vegetation Cover	80% survival of approved vegetation and no bare areas large enough to affect function of facility.	Determine cause of poor growth and correct the condition. Sediment accumulation or competition with invasive vegetation could be cause. Replant with plugs or containerized plants per the approved planting plan and applicable standards at time of construction. Remove excessive weeds and all invasive plants.	SPRING FALL Ideal time to plant is spring and fall seasons	
Evidence of rodents, or water piping through facility via rodent holes. Harmful insects present such as wasps and hornets that interfere with maintenance/inspection activities Mulation in Sediment depth in wetland bottom maintenance in wetland functions or plant growth in treatment area through facility if damaged. Remove the professional services integrated horners wasps and hornets that interfere with maintenance/inspection activities plan for management options. Remove sediment from wetland bottom sediment from wetland bottom in treatment shape and depth; re-seed if necessary to control erosion, or replant to achieve treatment.	Hazard Trees	Observed dead, dying or diseased trees	Remove hazard trees. A Certified Arborist may need to determine health of tree or removal requirements.	As Needed	
Sediment depth in wetland bottom exceeds 6 inches or affects inlet/outlet functions or plant growth in treatment area Remove sediment from wetland bottom. Re-establish designed wetland shape and depth; re-seed if necessary to control erosion, or replant to achieve treatment.	Vector Control	Evidence of rodents, or water piping through facility via rodent holes. Harmful insects present such as wasps and hornets that interfere with maintenance/inspection activities	Repair facility if damaged. Remove harmful insects, use professional service if needed. Refer to Clean Water Services Integrated Pest Management Plan for management options.	As Needed	
	Sediment Accumulation in Wetland Bottom	Sediment depth in wetland bottom exceeds 6 inches or affects inlet/outlet functions or plant growth in treatment area	Remove sediment from wetland bottom. Re-establish designed wetland shape and depth, re-seed if necessary to control erosion, or replant to achieve treatment.	SUMMER FALL Ideally in the dry season	



Constructed Water Quality Wetland Operation and Maintenance Plan (continued)

inspection and maintenance activities, and may be used as an inspection log. Contact the design engineer, Clean Water Services or City representative for Annual inspections are required. It is recommended that the facility is inspected on a monthly basis to ensure proper function. The plan below describes

Maintenance person determines the structure is unsound. Soil entering structure through cracks Settlement or Misalignment of Outlet Settlement or Person design standards design standards design standards structure replaced or repaired to	p.	✓ Task Complete Comments	As Needed	Maintenance Activity Repair dike/berm to approved design specifications. A licensed civil engineer should be consulted to determine the source of settlement. Cut tall grass to 4" to 6" and remove clippings. Prune emergent wetland grass/shrubs that have become overgrown Grate must be in place and meet design standards. Replace or repair any open structure, replace grate if missing. Frame is firmly attached and sits flush on the riser rings or top slab. Structure replaced or repaired to design standards. Structure replaced or repaired to design standards.	Look for any part of dike/berm that has settled 4 inches or more lower than the design elevation Vegetation grows so tall that it competes with approved emergent wetland grass/shrubs, interferes with access or becomes a fire danger grate members Grate is missing or only partially in place, may have missing or broken grate members Frame not sitting flush on top slab (more than ¾ inch between frame and top slab); frame not securely attached Fractures or Cracks in walls or bottom. Maintenance person determines the structure is unsound. Soil entering structure through cracks Settlement or Misalignment of Outlet	dentified Problem settlement of Pond Dike/ serm srcessive Vegetation or not in place tructure tructure tange to Outlet tructure
Structure basin, railure or basin has created a design standards	Maintenance person determines the structure is unsound. Soil entering structure through cracks to Outlet Settlement or Misalignment of Outlet Settlement or Misalignment or Mis			design standards	basin. Failure of basin has created a safety, function, or design problem	structure
attached standards. Standards. Fractures or Cracks in walls or bottom.			As Needed	Frame is firmly attached and sits flush on the riser rings or top slab. Structure replaced or repaired to design	Frame not sitting flush on top slab (more than ¾ inch between frame and top slab): frame not securely	Damage to Outlet Structure
Frame not sitting flush on top slab (more than ¾ inch between frame and top slab); frame not securely attached Eractures or Cracks in walls or bottom.	Frame is firmly attached and sits flush on top slab Frame is firmly attached and sits flush (more than % inch between frame on the riser rings or top slab. Structure		As Needed	Grate must be in place and meet design standards. Replace or repair any open structure, replace grate if missing.	Grate is missing or only partially in place, may have missing or broken grate members	Grate Damaged, missing or not in place
Grate is missing or only partially in place, may have missing or broken grate members Grate must be in place and meet design standards. Replace or repair any open structure, replace grate if missing. Frame not sitting flush on top slab (more than ¾ inch between frame and top slab); frame not securely attached Fractures or Cracks in walls or bottom.	Grate is missing or only partially in place, may have missing or broken grate members any open structure, replace grate if missing. Frame not sitting flush on top slab (more than 34 inch between frame on the riser rings or top slab. Structure		SPRING Ideal time to prune emergent wetland grass is spring. Cut grass in dry months	Cut tall grass to 4" to 6" and remove clippings. Prune emergent wetland grass/shrubs that have become overgrown	Vegetation grows so tall that it competes with approved emergent wetland grass/shrubs, interferes with access or becomes a fire danger	Excessive Vegetation
Vegetation grows so tall that it competes with approved emergent wetland wetland grass/shrubs, interferes with access or becomes a fire danger access or becomes a fire danger grate members grate members Grate is missing or only partially in place, may have missing or broken grate members Frame not sitting flush on top slab (more than ¾ inch between frame and top slab); frame not securely attached Fractures or Cracks in walls or bottom. Structure replaced or repaired to Grate move and remove clippings. Prune emergent wetland grass and reason wetland agass/shrubs, interferes with agass/shrubs that have become overgrown Grate is missing or only partially in design standards. Replace and meet design standards any open structure, replace grate if missing. Frame not sitting flush on top slab on the riser rings or top slab. Structure replaced or repaired to design standards.	Vegetation grows so tall that it competes with approved emergent wetland grass/shrubs, interferes with access or becomes a fire danger Grate is missing or only partially in place, may have missing or broken grate members Frame not sitting flush on top slab (more than ¾ inch between frame on the riser rings or top slab. Structure		As Needed	Repair dike/berm to approved design specifications. A licensed civil engineer should be consulted to determine the source of settlement.	Look for any part of dike/berm that has settled 4 inches or more lower than the design elevation	Settlement of Pond Dike/ Berm
ment of Pond Dike/ Look for any part of dike/berm that has settled 4 inches or more lower than the design elevation has settled 4 inches or more lower than the design elevation has settled 4 inches or more lower than the design elevation has settled 4 inches or more lower specifications. A licensed civil engineer should be consulted to determine the source of settlement. Cut tall grass to 4" to 6" and remove cippings. Prune emergent wetland grass/shrubs, interferes with access or becomes a fire danger clippings. Prune emergent wetland grass/shrubs, interferes with access or becomes a fire danger overgrown grate members are in place, may have missing or broken grate members. Frame not sitting flush on top slab (more than ¾ inch between frame and top slab); frame not securely attached are replaced or repaired to design standards. Frame is firmly attached and sits flush on the riser rings or top slab. Structure replaced or repaired to design standards. Structure replaced or repaired to grant frame is firmly attached and sits flush on the riser rings or top slab. Structure replaced or repaired to design standards.	ment of Pond Dike/ Look for any part of dike/berm that has settled 4 inches or more lower than the design elevation sive Vegetation Vegetation grows so tall that it competes with approved emergent wetland grass/shrubs, interferes with access or becomes a fire danger Damaged, missing of grate is missing or only partially in grate members Damaged, missing or outlet Frame not sitting flush on top slab iure Look for any part of dike/berm to approved design specifications. A licensed civil engineer specifications of settlement. Cut tall grass to 4" to 6" and remove clippings. Prune emergent wetland grass/shrubs that have become overgrown design tandender specifications of settlement. Cut tall grass to 6" and remove clippings. Prune emergent wetland grass/shrubs that have become design tandender specifications of settlement. Cut tall grass to 6" and remove competes with approved emissing or only partially in grass/shrubs that have become design tandender specifications of settlement. Cut tall grass to 6" and remove competes with approved remove specifications of settlement. Cut tall grass to 4" to 6" and remove competes with a grassiant and remove competes with approved emission of settlement. Cut tall grass to 4" to 6" and	✓ Task Complete	Maintenance Timing	Maintenance Activity	Condition to Check for	Identified Problem