

Field Review

Technical Advisory Report

Long-Term Operation & Maintenance

Report Delivered: ☒

Site Name:	Chesapeake Drive - 036	Report Date:	2021-04-20
Location:	Facility 035, 036	Inspection Date:	2021-03-30
Permit Holder:	Chesapeake HOA	Reviewed By:	Jakob Hamlescher
Contact:	John Graven	Site NPDES Number:	N/A
Address:	18104 Heritage Trail Strongsville OH 44136	Application No:	N/A

Stormwater Control Measure Field Review of Conditions and Compliance Activities performed through a Memorandum of Understanding in accordance with Ohio Revised Code, Chapter 940 and North Royalton Codified Ordinances

Site Condition Summary



View of the basin.

Needed Maintenance Activity Details:

Please provide the appropriate contact and email address for future inspection reports to Carla Regener at cregener@cuyahogswcd.org.

As a stormwater control measure (SCM) owner/operator in the Northeast Ohio Regional Sewer District's (NEORS) stormwater service area, you may be eligible for a stormwater fee credit. The credit is a conditional reduction in the NEORS stormwater fee if an account holder takes measures to reduce the stormwater rate or volume and/or protect the water quality of runoff flowing from their property to the regional stormwater system. The credit can be obtained through continued use, operation, and maintenance of approved SCMs. To find out more details about the credit program and to apply for credit you can find details online at: <https://www.neorsd.org/fee-credit/>, or contact Chris Hartman with NEORS at 216-881-6600 X6656.

See needed maintenance activity details below.

Additional Information:

Stormwater control measures (SCMs) are manmade structures that help reduce flooding by holding back and slowly releasing water during rain events. They include man-made retention ponds, dry detention basins, and underground detention devices. Sites with a constructed SCM are responsible for maintaining the structure. A guidance document has been compiled by local stormwater experts to assist private owners with inspection and maintenance and is available online at the following link:

http://www.neohiostormwater.com/uploads/3/0/9/8/3098302/compressed_scm_om_manual_final_8-21-15.pdf

Inflow Structure



View of inlet structure. There is sediment accumulation in the pipe as well as some minor erosion/slumping. This sediment needs to be cleaned out.

Needed Maintenance Activity Details:

Monitor and remove accumulated debris from the inflow structure on a regular basis to ensure proper function.

Monitor for erosion around the inflow structure, repair as needed to prevent failure of infrastructure and sedimentation of the stormwater control measure.

Ensure that inflow structures are kept clear of overgrown plants to minimize the blockage of flow.

Additional Information:

Inflow structures (pipes, culverts, curb cuts, etc.) direct stormwater runoff into stormwater control measures. These inflow structures can become clogged by overgrown plants, accumulation of sediment, floating trash and debris. A clogged inflow structure can result in erosion and blocked flow. Unclogging the inflow structure is relatively simple. Remove overgrown plants, accumulated sediment, and debris with a shovel, rake, a pole or your hand. Inspect inflow areas regularly as they can become clogged at any time.

Outlet Structure



View of outlet structure covered with leaves. There was also minor erosion/slumping around the outlet structure.

Needed Maintenance Activity Details:

Monitor and remove accumulated debris from the outlet structure on a regular basis to ensure proper function. Ensure that outlet structures are kept clear of overgrown plants to minimize the blockage of flow.

Additional Information:

Outlets provide a path for water from stormwater control measures to the storm sewer or stream. The outlet structure is designed to slow down water and hold it back within the stormwater control measure during rain events. These outlets can become clogged by accumulation of sediment, floating trash and debris. A clogged outlet can result in loss of storage and flooding of unintended areas. Unclogging the outlet is relatively simple. Remove accumulated sediment and debris with a shovel, rake, a pole or your hand. Inspect the outlet regularly, it can become clogged at any time.

Invasive Aquatic Plants



View of cattails in the basin. These need to be treated and/or removed.

Needed Maintenance Activity Details:

Cut back, remove, or treat narrowleaf cattails to prevent further growth. Use a contractor with a commercial pesticide license with aquatic endorsement for any chemical treatments. Planting turf or native species to compete with the invasive cattails will help stabilize and prevent future cattail establishment. Contact Cuyahoga SWCD for additional details about the proper management of narrowleaf cattail. Stabilize any areas that are disturbed during vegetation management.

Additional Information:

Stormwater control measures can become overgrown with invasive plants without routine maintenance. The plants form a mat that thickens each year, reducing space in the basin for water detention. Narrowleaf cattails (*typha angustifolia*), Common Reed Grass (*Phragmites*), and Reed Canary Grass (*Phalaris*) form protective thickets which allow for mosquito breeding. Invasive plants can be controlled using physical or chemical methods. When chemical methods are preferred, please first refer to http://epa.ohio.gov/dsw/permits/GP_Pesticide.aspx. As with all plant management in stormwater control measures, any soil disturbance will need to be stabilized with seeding/uniform plant growth. Depending on the length of time the invasive plants have been growing, dredging of accumulated sediment may also be needed before seeding and stabilization.

Permanent Stabilization



View of the bare area at the top of the berm. This needs to be re-seeded.

Needed Maintenance Activity Details:

Stabilize all areas of exposed soil as quickly as possible.

Additional Information:

Permanent uniform plant cover and other protective measures (e.g. landscape mulching, turf reinforcement matting, rocks, etc.) stabilize soil and prevent soil loss. The land on site should be monitored to ensure there is always at least 70% uniform coverage of soil with plants or protective measures. In places where soil is bare and exposed to accelerated soil loss, steps should be taken to repair and/or re-seed and re-mulch. If plant cover is patchy and in need of repair, identify the cause of failure and take corrective actions (e.g. a soil fertility analysis and apply necessary lime and fertilizer while preparing the seedbed).

Trash and Debris



View of leaf litter near the outlet structure. This needs to be cleaned up to allow proper water flow and dissipation on the rocks below.

Needed Maintenance Activity Details:

Remove plant debris from the stormwater control measure during routine maintenance to ensure proper function and aesthetic quality.

Additional Information:

Excessive amounts of trash and plant debris can clog stormwater control measures and should be removed on a routine basis for proper function, safety, and aesthetic quality.

Other Observations



View of silt fence. This needs to be removed.

Additional Details and Recommendations:

Temporary practices such as silt fence should have been removed at the end of construction. Please remove as soon as possible. There is a lower part of the embankment along the northern edge of the basin. It was difficult to determine if this area was at one time an emergency spillway or if the soil has settled in this area. Review engineering drawing for this basin and ensure the elevations of this embankment are correct.

Sediment



View of sediment accumulation in the basin. This needs to be dredged soon.

Needed Maintenance Activity Details:

Dry (detention) basins are designed to catch and settle sediment to prevent it from traveling into nearby streams/sewer systems. Owners should budget for eventual dredging which typically is needed every 15-20 years.

Additional Information:

Stormwater control measures are designed to capture sediment and will need periodic sediment removal to maintain proper water storage volume. Sediment should be removed when the designed storage volume has been reduced by 25%, or the pond becomes nutrient enriched (e.g. excessive floating plants). Trapped sediment is usually clean enough for on-site use. However, laboratory analysis of sediment should be performed if the pond has received spills, is in a highly industrial area, or if the watershed has intensive traffic.

Comments:

Well planned, designed and constructed stormwater control measures remove pollutants, protect stream channels, and mitigate floods. To accomplish these goals and keep these features safe, aesthetic, and mosquito free, they must be maintained. Routine maintenance listed above should be performed to maintain stormwater control measure function.

Please feel free to contact Carla Regener (cregener@cuyahogawcd.org), Natural Resource Program Manager, at the Cuyahoga SWCD if you have any questions.

CC:

Justin Haselton, P.E., City of North Royalton - Engineering

Dan Konschak, City of North Royalton - Engineering