

Storm Water Management
&
Erosion Control Narrative

For
City of La Crosse
Department of Parks, Recreation & Forestry

2023 Carroll Park Improvements Project
La Crosse, WI

Prepared By
Makepeace Engineering, LLC

1.0 Introduction

A. Project Description

Makepeace Engineering is assisting the City of La Crosse Department of Parks, Recreation & Forestry, with the site design, which includes the stormwater management and erosion control, for its 2023 Carroll Park Improvements Project located at 1701 Marco Drive, La Crosse within La Crosse County.

The project consists of construction of a concessions and restroom building, concrete sidewalk, excavation and grading, storm sewer and other necessary improvements.

B. Pre-Construction Site

The project site resides within La Crosse County Tax Parcel 17-50264-70. The project will disturb an area of approximately 1.08 acres. The existing site is approximately 2% impervious. It contains approximately 722 square feet of combined roof area and 266 square feet of bituminous pavement. The remaining 46,440 square feet consists of pervious areas. The site is adjacent to existing municipal baseball and softball fields to the north and south, industrial sites to the west, and the Mississippi River to the east. Existing underground utilities include a sanitary service and water service lines.

The planned area of disturbance is proximately 1.08 acres and consist primarily of maintained grass turf. The existing site drains directly to the Mississippi River to the east.

The existing site is a historic landfill known as Isle La Plume. Borings taken on the site indicate the project will disturb and excavate landfill material. Samples have been sent to a certified lab to determine the nature of the material expected to be encountered. However, excavated material in previous projects has been delivered to, and accepted by the new La Crosse County Landfill.

2.0 Requirements

The project will disturb more than 1 acre of land. As such, it is subject to coverage under General Permit No. WI-S064831-4 for post-construction site storm water runoff. The City of La Crosse also requires a post-construction runoff permit in accordance with Section 105-59 of the City of La Crosse Municipal Code.

3.0 Erosion Control Plan

A. Management Practices

Erosion and sediment control best management practices are shown on the plans and will be installed and maintained as indicated below in accordance with WDNR Technical Standards.

- Technical Standard 1005 Vegetated Swale
- Technical Standard 1052 Non-Channel Erosion Mat
- Technical Standard 1053 Channel Erosion Mat
- Technical Standard 1056 Silt Fence
- Technical Standard 1057 Trackout Control Practices
- Technical Standard 1058 Mulching for Construction Sites
- Technical Standard 1059 Seeding
- Technical Standard 1060 Storm Drain Inlet Protection For Construction Sites
- Technical Standard 1062 Ditch Checks

B. Sequence of Work

1. Install tracking pad.
2. Install silt fence, and sediment barriers prior to any land disturbance.
3. Mass grading for storm BMPs, swale, building area, and sidewalks.
4. Disturb only as much soil as is necessary to complete construction. Preserve as much vegetation as possible.
5. Temporary erosion control seeding and mulch will be placed on disturbed areas which will not be disturbed again for a period of more than 14 days.
6. Temporary erosion control seeding, mulch, and silt fence will be used on stockpiles which will exist for more than seven days.
7. Post-construction bmp's construction sequencing will follow Section 3A below.
8. Grade site as construction progresses.
9. Properly dispose of construction waste.
10. Re-vegetate each phase as construction for that phase is completed.
11. Continuously clean up off-site sediment deposits.
12. Inspect erosion and sediment control practices weekly, and within 24 hours following a rainfall of 0.5 inches or greater. Written documentation of each inspection shall be maintained at the construction site and shall include the time, date, and location of inspection, the phase of land disturbance at the construction site, person conducting the inspection, assessment of control practices, and a description of any erosion or sediment control measure installation or maintenance performed in response to the inspection.
13. Remove tracking pad once construction is completed.
14. Remove all sediment barriers once construction is completed and the site is at least 70% re-vegetated.

4.0 Storm Water Management Plan

A. Post-Construction Site

The post construction site will include work as shown in the project plans. Storm water will drain through storm inlets and storm sewer, outlet at the surface to the swale that discharges to the Mississippi River. All grading will be done with slopes less than 33%. The post-construction site will have a breakdown of approximately 11% impervious and 89% pervious compared to the pre-construction breakdown of 2% impervious and 98% pervious.

B. Post-Construction Performance Requirements

The proposed site is considered a redevelopment site. As such, the site is subject to the following post-construction performance standards under NR 151:

- Reduce the total suspended solids load by 40%, based on average annual rainfall
- The site discharges directly to the Mississippi River. Thus, the site is exempt from peak discharge requirements in accordance with NR 151.123(2)(a).
- As a redevelopment site, and as a historic landfill, the post-construction site is exempt from post-construction performance standards for infiltration.

The City of La Crosse has the same requirements as stated above.

C. Modelling Results

1. TSS Reduction

Stormwater will be directed to the proposed storm sewer system and then to a vegetated swale. The vegetated swale will be constructed as shown on the plan detail sheet and in accordance with DNR Technical Standard 1005.

WinSLAMM 10.4.1 was used to model pollutant loading and reduction and indicates 66% solids reduction from the site will be achieved with the device size and location shown on the plans. The rain file modeled was the 1981 rain file from Madison, Wisconsin.

D. Sequence of Work

1. Install erosion control measures as discussed in Section 2B.
2. Construct project including rough grading.
3. Side slopes will be no steeper than 3H:1V everywhere else on the site.
4. Construct the vegetated swale as early as possible in the project. Remove accumulated sediment if needed.

E. Long-Term Maintenance

1. Water plants as necessary during the first growing season.
2. Water as needed after first growing season.
3. Treat diseased vegetation as needed.
4. Inspect soil and repair eroded areas as needed.
5. Remove litter and debris monthly.
6. Remove accumulated sediment as needed to allow proper function.
7. Make repairs as needed when performance is compromised.