



Title: Arden Park Construction Update

Prepared by: Name: Laura Domyancich
Phone: 952.641.4582
ldomyancich@minnehahacreek.org

Purpose: To provide an update on the final elements of the construction phase of the Arden Park restoration project.

Background: Construction of the Arden Park restoration project, which included a remeandering of Minnehaha Creek and restoration of 2,100 feet of streambank, removal of a low-head dam in Minnehaha Creek, construction of a two-stage stormwater system that treats an 80-acre drainage area, restoration of floodplain wetland and upland habitat, and creation of new park trails and amenities, began in January 2019. Rainfall throughout 2019, associated creek levels, and ongoing shelter building construction prevented some project elements from being completed last fall, and the construction phase has extended into the spring and early summer of 2020.

Summary: Three remaining elements of project work are currently underway: planting of the new streambanks, establishment of turf in the improved open space around the new shelter building and playground, and repair of the stormwater swales.

Streambank planting: Minnehaha Creek through Arden Park had been ditched and straightened, had badly eroded streambanks due to flashy flows and a lack of vegetation on the streambanks, and received untreated stormwater from surrounding areas. The remeander forms a new creek alignment that slows stream flows, and construction of streambanks built with fabric encapsulated soil (FES) lifts and large pieces of trees salvaged from the site better absorbs the force of high flows. The FES lifts were seeded during winter construction, and were intended to be planted in spring 2019 with native grasses and forbs. High water conditions in Minnehaha Creek throughout the growing season of 2019 prevented the vegetation subcontractor from planting approximately half of the 22,000 plants into the new streambanks. With lower water in the creek this summer, planting resumed and is nearly complete. The streambanks will be further stabilized as plants develop deep root systems resilient to future high water.

Turf establishment: Before the restoration project, most of the green space at Arden Park was unusable as poor drainage caused turf areas to hold standing water. A new drain tile system and improved grading in the green space around the shelter building and playground allows the open area to drain well and be used by park visitors throughout the year. Construction of the new shelter building continued into early winter 2019 preventing the vegetation subcontractor from seeding the open space in 2019. The turf areas were instead seeded in late spring 2020, but construction compaction and inadequate watering has led to poor turf establishment. The contractor is currently developing a plan to re-seed, add supplemental fertilizer, and establish a watering schedule to be implemented later this summer.

Stormwater swales: The stormwater swales along the east side of Arden Park filter pre-treated stormwater from an 80-acre drainage area before the stormwater enters Minnehaha Creek. In late fall 2019, the project team observed slow drawdown of stormwater in two of the six swale cells. A thorough investigation ensued to determine the cause of the slow drawdown. This included televising the drain tile within the swales, soil core sampling, two infiltration rate tests, and a review of design plans. The soil core sampling and infiltration tests determined that a layer of fine sediments covering the coarse bio-filtration media over the drain tile pipes was preventing water from efficiently percolating down to the drain tile. Based on the type of fine sediments found in the soil core sampling and observation of construction practices, it was further determined that inadequate erosion control and inlet protection within the construction site led

to the deposition of fine sediments in the swales. The extent of sedimentation and resulting standing water also caused the loss of some vegetation in two of the six swales. The project contractor will be performing precise spot removal of these fine sediments in the first four cells where vegetation has established very well. In the remaining two cells, surviving plant material will be removed and set aside, the contractor will use a vactor truck to remove all accumulated sediment, infiltration rates will be tested, and the cells will be replanted according to design plans.

These remaining project elements are planned to be finished by the end of July 2020 at which time the project will be substantially complete. The construction project is under warranty for one year and plant material is under warranty for three years during which vegetation throughout the project will be managed by the vegetation subcontractor. The park has been filled with visitors using new paths for walking and biking, accessing the creek for tubing and paddling, and using the open space for picnics and small gatherings. As a result, some newly planted areas that are heavily used will be fenced off until plants can become established.