

Operations and Maintenance Plan Carver county Courthouse Porous Paving + Biofiltration

Legal Description: Lot 1, Block 1, and Outlot A. COURTHOUSE CAMPUS TWO. PID# 301490010

Contact: Kevin Maas (952) - 361-1557
600 E 4th St
Chaska, MN 55318

Project Description/ Purpose: This project was installed during the fall of 2008 as a demonstration site for the use of porous paving and planted filtration trench within Carver County. The project serves to treat the stormwater prior to entering into the adjacent East Chaska Creek. The approximate drainage area is ~ 37,000 sq ft. Maintenance is necessary to the functionality and long-term success of the project. Features include:

- Porous bituminous pavement w/ underdrain
- Planted Biofiltration w/ underdrain

All underdrains are connected to adjacent catch basin w/ manhole. Inspections of the connection into the catch basin will indicate that the underdrain is functioning.

Maintenance Tasks – Courthouse Porous Paving + Biofiltration

| Timeline | Task | Personnel |
|----------------|--|--|
| February | ➤ Schedule porous pavement sweeper for April, July and October | ➤ Facilities Dept. Manager |
| April | ➤ Remove dead plant material (if not completed in the fall) ➤ Sweep porous pavement with a regenerative air vacuum sweeper ➤ Replace and dead plants w/ new plugs or transplants | ➤ Facilities Dept. Staff ➤ Contracted Services & Facilities Dept. Manager |
| May | ➤ Add mulch swale as needed ➤ Mow grass buffer around swale | ➤ Facilities Dept. Staff ➤ Contracted Services & Facilities Dept. Manager |
| June | ➤ Mow grass buffer around swale ➤ Weed swale | ➤ Contracted Services & Facilities Dept. Manager ➤ Facilities Dept. Staff (Planning & Water Mngt staff are available to assist with plant identification) |
| July | ➤ Weed swale ➤ Mow grass buffer around swale ➤ Sweep porous pavement with a regenerative air vacuum sweeper | ➤ Facilities Dept. Staff (PWM staff available to assist) ➤ Contracted Services & Facilities Dept. Manager ➤ Contracted Services & Facilities Dept. Manager |
| August | ➤ Mow grass buffer around swale ➤ Weed swale | ➤ Contracted Services & Facilities Dept. Manager ➤ Facilities Dept. Staff (PWM staff are available to assist with plant identification) |
| September | ➤ Mow grass buffer around swale | ➤ Contracted Services & Facilities Dept. Manager |
| October | ➤ Mowing & fixing any erosion/gullying formed during season | ➤ Facilities Dept. Staff |
| Early November | ➤ Remove dead plant material (could also wait until spring) ➤ Sweep porous pavement with a regenerative air vacuum sweeper | ➤ Facilities Dept. Staff ➤ Contracted Services & Facilities Dept. Manager |
| Additional | No sand (de-icing) is to be used at any time on or around the porous pavement. Salt use for de-icing should follow the guidelines laid out by the Minnesota Pollution Control Agency. | |

Location Map

Chaska, MN



Site aerial



SECTION THRU INFILTRATION BASIN

Flower

Leaf

Juvenile

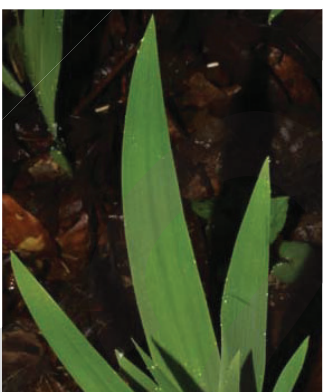
AN

New England Aster



IV

Blue Flag Iris



LP

Prairie Blazingstar



RF

Black Eyed Susan



Biofiltration (Rain Garden) Maintenance Inspection Checklist

| |
|---|
| Inspector: |
| Date: |
| Time: |
| Weather: Rainfall over previous 2-3 days? |
| Reading from closest NOAA reporting station: _____” |
| Rain Garden Location: |

Mark items in the table below using the following key:

- X** Needs immediate attention
- Not Applicable
- ✓** Okay
- ?** Clarification Required.

Rain Garden Components:

| Items Inspected | Checked | | Maintenance Needed | | Inspection Frequency |
|--|---------|---|--------------------|---|----------------------|
| DEBRIS CLEANOUT | Y | N | Y | N | M |
| 1. Rain gardens and contributing areas clean of debris | | | | | |
| 2. No dumping of yard wastes into rain garden | | | | | |
| 3. Litter (trash, debris, etc.) have been removed | | | | | |
| VEGETATION | | | | | M |
| 4. No evidence of erosion | | | | | |
| 5. Is plant composition still according to approved plans | | | | | |
| 6. No placement of inappropriate plants | | | | | |
| DEWATERING AND SEDIMENTATION | | | | | A,AMS |
| 7. Rain garden dewaterers between storms | | | | | |
| 8. No evidence of standing water | | | | | |
| 9. No evidence of surface clogging | | | | | |
| 10. Sediments should not be greater than 20% of swale design depth | | | | | |
| OUTLETS/OVERFLOW SPILLWAY | | | | | A, AMS |
| 11. Good condition, no need for repair | | | | | |
| 12. No evidence of erosion | | | | | |
| 13. No evidence of any blockages | | | | | |
| INTEGRITY OF BIOFILTER | | | | | M |
| 14. Raingarden has not been blocked or filled inappropriately | | | | | |
| 15. Mulch layer is still in place (depth of at least 3”) | | | | | |
| 16. Noxious plants or weeds removed | | | | | |

Inspection Frequency Key

A= Annual, M= Monthly, AMS= After Major Storm

Comments:

| |
|--|
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |

OVERALL CONDITION OF FACILITY:

In accordance with approved design plans? Y / N In accordance with As Built plans? Y / N

Dimension on as built:

Field Verified Dimension:

Maintenance required as detailed above? Y / N Compliance with other consent conditions? Y / N

Comments: _____

Dates by which maintenance must be completed: ____ / ____ / ____

Dates by which outstanding information as per consent conditions is required by: : ____ / ____ / ____

Inspector's signature: _____

Consent Holder/Engineer/Agent's signature: _____

Consent Holder/Engineer/Agent's name printed: _____

Porous Paving Maintenance Inspection Checklist

| |
|---|
| Inspector: |
| Date: |
| Time: |
| Weather: Rainfall over previous 2-3 days? |
| Site Conditions: |

Mark items in the table below using the following key:

- X** Needs immediate attention
- Not Applicable
- ✓ Okay
- ? Clarification Required.

Porous Paving Components:

| Items Inspected | Checked | | Maintenance Needed | | Inspection Frequency |
|---|---------|---|--------------------|---|----------------------|
| | Y | N | Y | N | |
| PAVEMENT SURFACE | | | | | M |
| 1. Signs of clogging (e.g. standing water)? | | | | | |
| 2. Debris accumulation (mulch, sticks, trash)? | | | | | |
| 3. Sediment accumulation? | | | | | |
| 4. Standing water present? | | | | | |
| ADJACENT AREAS | | | | | A, AMS |
| 5. Erosion from underdrain outlet? | | | | | |
| 6. Exposed soil in areas discharging to porous paving? | | | | | |
| 7. Is porous pavement adversely affected by any adjacent site feature? | | | | | |
| DEWATERING | | | | | A, AMS |
| 8. Does runoff discharge from pavement area within 48hrs? | | | | | |
| OUTLETS/OVERFLOW | | | | | A, AMS |
| 9. Is outlet for storm sewer system free from debris and in good working order? | | | | | |
| OTHER | | | | | |
| 10. Have there been complaints? | | | | | A |
| 11. Public Hazard noted? | | | | | |
| 12. Other: | | | | | |

Inspection Frequency Key

A= Annual, M= Monthly, AMS= After Major Storm

Comments:

| |
|--|
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |

OVERALL CONDITION OF FACILITY:

In accordance with approved design plans? Y / N

In accordance with As-Built plans? Y / N

Dimension on as built: Y / N

Field Verified Dimension: Y / N

Maintenance required as detailed above? Y / N

Compliance with other consent conditions? Y / N

Comments: _____

Dates by which maintenance must be completed: ____/____/____

Dates by which outstanding information as per consent conditions is required by: : ____/____/____

Inspector's signature: _____

Consent Holder/Engineer/Agent's signature: _____

Consent Holder/Engineer/Agent's name printed: _____