DATE:  3/2/2015

TO:    Jeremy Leiferman, Housing and Residence Life – Administrative Director
       Pat Keenan, Student Life Operations – Director

FROM:  Erik Larson, Facilities Management - Sr. Engineer

SUBJECT:  Summary of 2014 Inspection of Housing Structural Storm Water Devices UMD
           (UMD SWPPP 6b-2 / 6b-5)

I completed the annual inspections of the housing’s structural storm water devices last fall per the
MPCA’s MS4’s storm water permit MN R580000.  While generally your devices appear to be
operating appropriately, there are a few items that should be addressed.  A prioritized summary
with recommendations follows.  My recommendation is that those described as high priority should
be addressed this summer and low priority items maybe deferred and reviewed again this fall to
see if they continue to be a problem.

HIGH PRIORITY

ST1323 LAIH Grass Swale (SE)
The sod in this area in inhibited due to the area being too wet and pedestrian damage.  The
area has begun to erode. Repair of this item was being reviewed last summer (W.O.
14156646), however the preliminary design/estimate was never completed (not Housing’s
fault). The area is continuing to deteriorate. I recommend completing the landscape
redesign from sod into a “rain garden” or native planting area with moisture tolerant
plants, erosion protection, and features to discourage pedestrians from cutting
through the area.

ST1333 LAIH Grass Swale (SW)
The sod in this area in inhibited due to the area being too wet. The area has minor erosion
and rutting (from mowers?). Repair of this item was being reviewed last summer (W.O.
14156646), however the preliminary design/estimate was never completed (not Housing’s
fault). The area is continuing to deteriorate. I recommend completing the landscape
redesign from sod into a “rain garden” or native planting area with moisture tolerant
plants.

MEDIUM PRIORITY

ST1313 LAIH Sand Filter
Minor erosion is occurring at the inlet to the filter. This is mainly a safety hazard, as the
sand filter doubles as a volleyball court. I recommend that this inlet be redesigned to
reduce the velocity of the incoming water. We can discuss options if you would like.

ST1354 GHFIRE Rain Garden / Grass Surface (South)
Per the design SWPPP long term maintenance plan, the area between GHFAR and the
rain gardens are to be aerated each spring after the students move out. I recommend
aerating Griggs Beach per the GHFIRE project SWPPP long term maintenance plan.
ST3253 GHFIRE Rain Garden / Grass Surface (North)
Per the design SWPPP long term maintenance plan, the area between GHFAR and the
rain gardens are to be aerated each spring after the students move out. **I recommend aerating Griggs Beach per the GHFIRE project SWPPP long term maintenance plan.**

**LOW PRIORITY**

ST1303 LAIH Rain Garden
There was a significant amount of algae at the time of the inspection. **I recommend keeping an eye on this during the summer to determine if it is a problem.**

ST3253 GHFIRE Rain Garden / Grass Surface (North)
There was a minor amount of erosion near the basketball court. **I recommend keeping an eye on this during the summer to determine if it becomes a problem.**

The rest of your structural storm water devices and materials handling areas appear to be functioning as intended. I have included a copy of all your inspection reports for your review.

**Update on last year's issues:**

ST1303 LAIH Rain Garden – Replace cap on drain tile – Complete
ST1313 LAIH Volleyball Sand Filter – Redesign inlet – Not Funded – On this year’s list again
ST1354 GHFIRE Rain Garden / Grass Surface (South) – Aerate per SWPPP – Complete
ST3253 GHFIRE Rain Garden / Grass Surface (North) – Aerate per SWPPP – Complete
ST1323 LAIH Grass Swale (SW) – Plant with wetland plants – Design not Completed – On this year’s list again
ST1333 LAIH Grass Swale (SE) – Plant with wetland plants – Design not Completed – On this year’s list again

If you have any questions regarding these inspections please contact me at (218) 726-6915 or elarson@d.umn.edu.

Please let me know how you would intend to respond to these inspection findings as I need to report our maintenance activities in our annual storm water report to the MPCA this spring. **If you would like me to oversee the repairs, please submit a work order describing which devices you would like repaired.**

Thanks.

Enclosures:

**Inspection Reports:**

- **Housing Structural Storm Water Devices**
  - ST1303 LAIH Rain Garden
  - ST1313 LAIH Volleyball Sand Filter
  - ST1323 LAIH Grass Swale (SE)
  - ST1333 LAIH Grass Swale (SW)
  - ST1338 LAIH/Lot Q-4 Sump Manhole (South) (shared w/ Parking)
  - ST1346 LAIH/Lot Q-4 Sump Manhole (Middle) (shared w/ Parking)
  - ST1354 GHFAR Rain Garden / Grass Surface (South)
  - ST1366 LAIH/Lot Q-4 Sump Manhole (North) (shared w/ Parking)
  - ST3253 GHFAR Rain Garden / Grass Surface (North)

C: UMD Storm Water Steering Committee
John Rashid, UMD Facilities Management – Interim Director
# STORM WATER INSPECTION FORM

**University of Minnesota Duluth**

<table>
<thead>
<tr>
<th>Outfall #</th>
<th>Photograph Name</th>
<th>Inspection Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>13-ST1303</td>
<td>10/25/2014</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pond Name</th>
<th>Date of last inspection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10/22/2013</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mechanical Structure #</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST1303</td>
<td>Rain Garden</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Location</th>
<th>Inspector</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAIH-south side, Lower</td>
<td>Erik J. Larson</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Weather</th>
<th>Air Temperature: 65</th>
<th>Rain: Y</th>
<th>Date of Last Rain: 10/20/2014</th>
<th>Sunny</th>
<th>Cloudy</th>
</tr>
</thead>
</table>

Describe drainage area: *See Griggs plans*

Describe last inspection:

**Physical Observations**

**Condition of Device:**

<table>
<thead>
<tr>
<th>Good</th>
<th>Average</th>
<th>Poor</th>
<th>Work Needed</th>
<th>N/A</th>
</tr>
</thead>
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Any Materials Within Structure:

<table>
<thead>
<tr>
<th>Deteriorating</th>
<th>Y</th>
<th>N</th>
</tr>
</thead>
</table>

Releasing Pollution:

<table>
<thead>
<tr>
<th>Y</th>
<th>N</th>
</tr>
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</table>

**Capacity of Pipe:**

Size of pipe: __________ Depth of Water: __________ Has Source of Flow Been Determined: Y N

Source of Water: N/A

Describe Storage Capacity:

<table>
<thead>
<tr>
<th>Minimal</th>
<th>Less Than Half</th>
<th>Greater Than Half</th>
<th>Full</th>
</tr>
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</table>

**Flow:**

<table>
<thead>
<tr>
<th>Performing Properly</th>
<th>Full</th>
<th>Overloaded</th>
<th>Clogged</th>
<th>Other</th>
</tr>
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</table>

Work Needed: Y N

Odor:

<table>
<thead>
<tr>
<th>None</th>
<th>Sewage</th>
<th>Sulfide</th>
<th>Oil</th>
<th>Gas</th>
<th>Rancid-Sour</th>
<th>Other</th>
</tr>
</thead>
</table>

**Color:**

<table>
<thead>
<tr>
<th>Normal</th>
<th>Dark Brown</th>
<th>Light Brown</th>
<th>Other</th>
</tr>
</thead>
</table>

**Turbidity:**

<table>
<thead>
<tr>
<th>None</th>
<th>Cloudy</th>
<th>Suspended Particles</th>
<th>Other</th>
</tr>
</thead>
</table>

**Water Temperature:**

<table>
<thead>
<tr>
<th>F</th>
<th>Not Available</th>
</tr>
</thead>
</table>

**Accumulated Materials**

Oil in Oil Port:

<table>
<thead>
<tr>
<th>Y</th>
<th>N</th>
<th>N/A</th>
</tr>
</thead>
</table>

Measurement: Calculated:

**Deposits:**

<table>
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<tr>
<th>None</th>
<th>Sediment</th>
<th>Oily</th>
<th>Describe: minimal</th>
<th>Sample Collected: Y N</th>
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</thead>
</table>

Depth of Sediment: N/A Measurement: Remaining Capacity: N/A

**Stains:**

<table>
<thead>
<tr>
<th>Y</th>
<th>N</th>
<th>Work Needed: Y N</th>
</tr>
</thead>
</table>

Describe:

**Vegetation Conditions:**

<table>
<thead>
<tr>
<th>Normal</th>
<th>Excessive Growth</th>
<th>Inhibited Growth</th>
<th>Describe:</th>
</tr>
</thead>
</table>

Describe Work Needed: N/A

**Erosion:**

<table>
<thead>
<tr>
<th>None</th>
<th>Minor Erosion</th>
<th>Major Erosion</th>
<th>Erosion Protected</th>
</tr>
</thead>
</table>

Describe Work Needed: N/A

**Immediate Work Needed:**

<table>
<thead>
<tr>
<th>Y</th>
<th>N</th>
<th>Describe:</th>
</tr>
</thead>
</table>

Next Anticipated Work Date:

**Inspection Comments / Recommendations**

**Comments / Recommendations**

Weeds are taking over edges of the Rain Garden, and there is extreme algae growth

N 46 49.000
W 92 05.339

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**University of Minnesota Duluth**

**STORM WATER INSPECTION FORM**

<table>
<thead>
<tr>
<th>Outfall #</th>
<th>Photograph Name</th>
<th>Inspection Date</th>
<th>Pond Name</th>
<th>Photograph Name</th>
<th>Inspection Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>10/25/2014</td>
<td></td>
<td></td>
<td>10/25/2014</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Mechanical Structure #</th>
<th>Type</th>
<th>Location</th>
<th>Inspector</th>
<th>Weather</th>
<th>Date of last inspection</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST1313</td>
<td>Sand filter</td>
<td>LAIH - south side, Volleyball Ct.</td>
<td>Erik J. Larson</td>
<td>Air Temperature: 65 Rain: Y N Date of Last Rain: 10/20/2014 Sunny Cloudy</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Describe drainage area</th>
<th>Shared Use</th>
<th>Describe</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAIH and Lot Q-4</td>
<td>Y</td>
<td>LAIH and Lot Q-4</td>
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</tbody>
</table>

#### Physical Observations

<table>
<thead>
<tr>
<th>Condition of Device</th>
<th>Work Needed</th>
<th>Any Materials Within Structure</th>
<th>Released Pollution</th>
<th>Capacity of Pipe</th>
<th>Source of Water</th>
<th>Flow</th>
<th>Odor</th>
<th>Color</th>
<th>Turbidity</th>
<th>Water Temperature</th>
<th>Accumulated Materials</th>
<th>Deposits</th>
<th>Depth of Sediment</th>
<th>Stains</th>
<th>Vegetation Conditions</th>
<th>Erosion</th>
<th>Immediate Work Needed</th>
<th>Next Anticipated Work Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>Y</td>
<td>N/A</td>
<td>Y</td>
<td>Good</td>
<td>N/A</td>
<td>Performing Properly</td>
<td>None</td>
<td>Normal</td>
<td>None</td>
<td>None</td>
<td>F</td>
<td>None</td>
<td>None</td>
<td>N/A</td>
<td>Y</td>
<td>Minor Erosion</td>
<td>Y</td>
<td>Y</td>
</tr>
</tbody>
</table>

#### Inspection Comments / Recommendations

- Minor erosion around outlet

---

N 46 49.016
W 92 05.355
Outfall #: __________________________ Photograph Name: 13-ST1323 Inspection Date: 10/25/2014

Pond Name: __________________________ Date of last inspection: 10/22/2013

Mechanical Structure #: ST1323 Type: Grass swale

Location: Griggs G -south side, NE

Inspector: Erik J. Larson

Weather: Air Temperature: 65 Rain: Y N Date of Last Rain: 10/20/2014 Sunny Cloudy

Describe drainage area: Griggs fire lane

Shared Use: Y N Describe:

Physical Observations

Condition of Device: Good Average Poor Work Needed: Y N

Describe Work Needed: N/A Sod restoration or replacement

Any Materials Within Structure: Deteriorating: Y N Describe: Sod is showing signs of inhibited growth

Releasing Pollution: Y N Describe:

Capacity of Pipe: Size of pipe: _______ Depth of Water: _______ Has Source of Flow Been Determined: Y N

Source of Water: N/A

Describe Storage Capacity: Minimal Less Than Half Greater Than Half Full Amount Remaining: _______

Flow: Performing Properly Full Overloaded Clogged Other: __________

Work Needed: Y N Describe:

Odor: None Sewage Sulfide Oil Gas Rancid-Sour Other: _______

Color: Normal Dark Brown Light Brown Other: _______

Turbidity: None Cloudy Suspended Particles Other: _______

Water Temperature: F Not Available

Accumulated Materials

Floatables: None Sheen Foam Sewage Litter Other: Leaves Sample Collected: Y N

Oil in Oil Port: Y N N/A Measurement: Calculated: _______

Describe Work Needed: N/A

Deposits: None Sediment Oily Describe: __________ Sample Collected: Y N

Depth of Sediment: N/A Measurement: _______ Remaining Capacity 100%

Describe Work Needed: N/A

Stains: Y N Work Needed: Y N Describe:

Vegetation Conditions: Normal Excessive Growth Inhibited Growth Describe: Too Wet

Describe Work Needed: N/A Sod restoration or replacement with different plants

Erosion: None Minor Erosion Major Erosion Erosion Protected Y N

Erosion along fire lane Describe Work Needed: N/A

Immediate Work Needed: Y N Describe:

Next Anticipated Work Date: _______

Inspection Comments / Recommendations

Comments / Recommendations

Plant with Wetland Plants?

Completed Date
Y N
Y N
Y N
Y N

N 46 49.035
W 92 05.318
University of Minnesota Duluth

STORM WATER INSPECTION FORM

Outfall #: ___________________________ Photograph Name: ___________________________ Inspection Date: 10/25/2014

Pond Name: ___________________________ Date of last inspection: 10/22/2013

Mechanical Structure #: ST1333 Type: Grass swale

Location: LAIH - south side, Upper Date of last inspection: ___________________________

Inspector: Erik J. Larson

Weather: Air Temperature: 65 Rain: Y N Date of Last Rain: 10/20/2014 Sunny Cloudy

Describe drainage area: Griggs Hall Fire Lane, WDSE, Field 5, LAIH

Shared Use: Y N Describe: Griggs Hall Fire Lane, WDSE, Field 5

Physical Observations

Condition of Device: Good Average Poor Work Needed: Y N

Describe Work Needed: N/A Sod restoration or replacement

Any Materials Within Structure: Deteriorating: Y N Describe: Sod is showing signs of inhibited growth

Releasing Pollution: Y N Describe:

Capacity of Pipe: Size of pipe: _______ Depth of Water: _______ Has Source of Flow Been Determined: Y N

Source of Water: N/A Describe Storage Capacity: Minimal Less Than Half Greater Than Half Full Amount Remaining: _______

Flow: Performing Properly Full Overloaded Clogged Other: _______

Work Needed: Y N Describe:

Odor: None Sewage Sulfide Oil Gas Rancid-Sour Other: _______

Color: Normal Dark Brown Light Brown Other: ______

Turbidity: None Cloudy Suspended Particles Other: ______

Water Temperature: F Not Available

Accumulated Materials

Floatables: None Sheen Foam Sewage Litter Other: Leaves Sample Collected: Y N

Oil in Oil Port: Y N N/A Measurement: ________ Calculated: ________

Describe Work Needed: N/A

Deposits: None Sediment Oily Describe: N/A ________ Remaining Capacity ________

Depth of Sediment: N/A Measurement: ________

Describe Work Needed: N/A

Stains: Y N Work Needed: Y N Describe: Appears to be too wet

Vegetation Conditions: Normal Excessive Growth Inhibited Growth Describe: Sod restoration or replacement with different plants

Describe Work Needed: N/A

Erosion: None Minor Erosion Major Erosion Erosion Protected Y N

Describe Work Needed: N/A Ruts forming

Immediate Work Needed: Y N Describe:

Next Anticipated Work Date: ________

Inspection Comments / Recommendations

Comments / Recommendations Completed Date

Minor trash Y N Y N Y N

Plant with Wetland plants? Y N Y N Y N

N 46 49.043

W 92 05.338

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STORM WATER INSPECTION FORM

Outfall #: ___________________________ Photograph Name: ___________________________ Inspection Date: 8/26/2014

Pond Name: ___________________________ Date of last inspection: 10/29/2013

Mechanical Structure #: ST1338 Type: Manhole Sump

Location: Lot Q-4 Drive - South

Inspector: Tessa Bakken

Weather: Air Temperature: 65 Rain: Y N Date of Last Rain: 8/24/2014 Sunny Cloudy

Describe drainage area: Lot Q-4 / LAIH

Shared Use: Y N Describe: Lot Q-4 / LAIH

Physical Observations

Condition of Device: Good Average Poor Work Needed: Y N

Describe Work Needed: N/A

Any Materials Within Structure: Deteriorating: Y N Describe:

Releasing Pollution: Y N Describe:

Capacity of Pipe: Size of pipe: _______ Depth of Water: 10" Has Source of Flow Been Determined: Y N

Source of Water: N/A Describe Storage Capacity: Minimal Less Than Half Greater Than Half Full Amount Remaining: Unknown

Flow: Performing Properly Full Overloaded Clogged Other: _______________

Work Needed: Y N Describe:

Odor: None Sewage Sulfide Oil Gas Rancid-Sour Other: ___________________________

Color: Normal Dark Brown Light Brown Other: ___________________________

Turbidity: None Cloudy Suspended Particles Other: ___________________________

Water Temperature: _______ F Not Available

Accumulated Materials

Floatables: None Sheen Foam Sewage Litter Other: Leaves Sample Collected: Y N

Oil in Oil Port: Y N N/A Measurement: Calculated:

Describe Work Needed: N/A

Deposits: None Sediment Oily Describe: Sample Collected: Y N

Depth of Sediment: N/A Measurement: 3.5" Remaining Capacity _______

Describe Work Needed: N/A

Stains: Y N Work Needed: Y N Describe:

Vegetation Conditions: Normal Excessive Growth Inhibited Growth Describe:

Describe Work Needed: N/A

Erosion: None Minor Erosion Major Erosion Erosion Protected Y N

Describe Work Needed: N/A

Immediate Work Needed: Y N Describe:

Next Anticipated Work Date: ___________________________

Inspection Comments / Recommendations

Comments / Recommendations Completed Date

Clean when sediment is within 2.5' from outlet pipe Y N

Look at plans for drainage area Y N Y N

N 46 49.069

W 92 05.336

Printed - 1/6/2015
# STORM WATER INSPECTION FORM

**Outfall #:** 
**Photograph Name:** 
**Inspection Date:** 8/26/2014

**Pond Name:** Lot Q-4 - Middle MH
**Mechanical Structure #:** ST1346
**Type:** Manhole Sump
**Location:** Lot Q-4 - Middle MH
**Inspector:** Tessa Bakken
**Date of last inspection:** 11/1/2013

**Weather:**  
- **Air Temperature:** 65°F
- **Rain:** Y N
- **Date of Last Rain:** 8/24/2014
- **Weather:** Sunny Cloudy

**Describe drainage area:** Lot Q-4 / LAIH
**Shared Use:** Y N

## Physical Observations

<table>
<thead>
<tr>
<th>Condition of Device</th>
<th>Good</th>
<th>Average</th>
<th>Poor</th>
<th>Work Needed</th>
<th>Y N</th>
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</thead>
<tbody>
<tr>
<td>Any Materials Within Structure</td>
<td>Deteriorating</td>
<td>Y N</td>
<td>Describe:</td>
<td></td>
<td></td>
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<tr>
<td>Releasing Pollution</td>
<td>Y N</td>
<td>Describe:</td>
<td></td>
<td></td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Capacity of Pipe</th>
<th>Size of pipe</th>
<th>Depth of Water</th>
<th>Has Source of Flow Been Determined</th>
<th>Y N</th>
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</table>

<table>
<thead>
<tr>
<th>Flow</th>
<th>Performing Properly</th>
<th>Full</th>
<th>Overloaded</th>
<th>Clogged</th>
<th>Other:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work Needed</td>
<td>Y N</td>
<td>Describe:</td>
<td></td>
<td></td>
<td></td>
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<table>
<thead>
<tr>
<th>Odor</th>
<th>None</th>
<th>Sewage</th>
<th>Sulfide</th>
<th>Oil</th>
<th>Gas</th>
<th>Rancid-Sour</th>
<th>Other:</th>
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</table>

<table>
<thead>
<tr>
<th>Color</th>
<th>Normal</th>
<th>Dark Brown</th>
<th>Light Brown</th>
<th>Other:</th>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Turbidity</th>
<th>None</th>
<th>Cloudy</th>
<th>Suspended Particles</th>
<th>Other:</th>
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<table>
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<tr>
<th>Water Temperature</th>
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<th>Not Available</th>
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## Accumulated Materials

<table>
<thead>
<tr>
<th>Floatables</th>
<th>None</th>
<th>Sheen</th>
<th>Foam</th>
<th>Sewage</th>
<th>Litter</th>
<th>Other:</th>
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</thead>
<tbody>
<tr>
<td>Oil in Oil Port</td>
<td>Y N</td>
<td>N/A</td>
<td>Measurement:</td>
<td>Sample Collected:</td>
<td>Y N</td>
<td></td>
</tr>
<tr>
<td>Describe Work Needed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tbody>
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<table>
<thead>
<tr>
<th>Deposits</th>
<th>None</th>
<th>Sediment</th>
<th>Oily</th>
<th>Describe:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depth of Sediment</td>
<td>N/A</td>
<td>Measurement: 4&quot;</td>
<td>Remaining Capacity</td>
<td>Unknown</td>
</tr>
<tr>
<td>Describe Work Needed</td>
<td>N/A</td>
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<td></td>
<td></td>
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<table>
<thead>
<tr>
<th>Stains</th>
<th>Y N</th>
<th>Work Needed</th>
<th>Y N</th>
<th>Describe:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Vegetation Conditions</th>
<th>Normal</th>
<th>Excessive Growth</th>
<th>Inhibited Growth</th>
<th>Describe:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Erosion</th>
<th>None</th>
<th>Minor Erosion</th>
<th>Major Erosion</th>
<th>Erosion Protected</th>
<th>Y N</th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>Immediate Work Needed</th>
<th>Y N</th>
<th>Describe:</th>
</tr>
</thead>
</table>

## Inspection Comments / Recommendations

<table>
<thead>
<tr>
<th>Comments / Recommendations</th>
<th>Completed</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean when sediment is within 2.5' from outlet</td>
<td>Y N</td>
<td></td>
</tr>
</tbody>
</table>

**Source:** N 46 49.072  
**W 92 05.330**
**STORM WATER INSPECTION FORM**

<table>
<thead>
<tr>
<th>Outfall #</th>
<th>Photograph Name</th>
<th>Inspection Date: 10/25/2014</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Date of inspection: 10/22/2013</td>
</tr>
<tr>
<td>Mechanical Structure #</td>
<td>ST1354</td>
<td>Type: Rain Garden</td>
</tr>
<tr>
<td>Location</td>
<td>Griggs Fire Access Road (South Side)</td>
<td></td>
</tr>
<tr>
<td>Inspector</td>
<td>Erik J. Larson</td>
<td></td>
</tr>
<tr>
<td>Weather</td>
<td>Air Temperature: 65</td>
<td>Rain: Y N</td>
</tr>
<tr>
<td>Describe drainage area</td>
<td>Drains off south side of Griggs beach and overflow off Vermillion Hall</td>
<td></td>
</tr>
<tr>
<td>Shared Use</td>
<td>Y N</td>
<td>Describe:</td>
</tr>
</tbody>
</table>

### Physical Observations

**Condition of Device:**
- Good
- Average
- Poor
- Work Needed: Y N
- Describe Work Needed: N/A

**Any Materials Within Structure:**
- Deteriorating: Y N
- Describe: N/A
- Releasing Pollution: Y N
- Describe: N/A

**Capacity of Pipe:**
- Size of pipe: __________
- Depth of Water: __________
- Has Source of Flow Been Determined: Y N
- Source of Water: N/A

**Flow:**
- Performing Properly: Y N
- Describe: N/A
- Full
- Overloaded
- Clogged
- Other: __________

**Odor:**
- None
- Sewage
- Sulfide
- Oil
- Gas
- Rancid-Sour
- Other: __________

**Color:**
- Normal
- Dark Brown
- Light Brown
- Other: __________

**Turbidity:**
- None
- Cloudy
- Suspended Particles
- Other: __________

**Water Temperature:**
- F
- Not Available

### Accumulated Materials

**Floatables:**
- None
- Sheen
- Foam
- Sewage
- Litter
- Other: __________
- Sample Collected: Y N
- Oil in Oil Port: Y N N/A
- Measurement: __________
- Calculated: __________
- Describe Work Needed: N/A

**Deposits:**
- None
- Sediment
- Oily
- Describe: N/A
- Sample Collected: Y N
- Depth of Sediment: N/A
- Measurement: __________
- Remaining Capacity: __________
- Describe Work Needed: N/A

**Stains:**
- Y N
- Work Needed: Y N
- Describe: N/A

**Vegetation Conditions:**
- Normal
- Excessive Growth
- Inhibited Growth
- Describe: N/A

**Erosion:**
- None
- Minor Erosion
- Major Erosion
- Erosion Protected: Y N
- Describe Work Needed: N/A

**Immediate Work Needed:**
- Y N
- Describe: N/A

Next Anticipated Work Date: __________

### Inspection Comments / Recommendations

**Comments / Recommendations**

**New 2011**

**Annual aerating**

- Y N

**Address:**
- N 46 49.065
- W 92 5.264

Printed - 2/27/2015
### Physical Observations

**Condition of Device:** Good  
- Average  
- Poor  
- Work Needed: Y  
- N/A

**Any Materials Within Structure:** Deteriorating: Y  
- N  
- Describe: 

**Capacity of Pipe:** Size of pipe: N/A  
- Depth of Water: 2.5’  
- Has Source of Flow Been Determined: Y  
- N

**Flow:** Performing Properly  
- Full  
- Overloaded  
- Clogged  
- Other: 

**Odor:** None  
- Sewage  
- Sulfide  
- Oil  
- Gas  
- Rancid-Sour  
- Other: 

**Color:** Normal  
- Dark Brown  
- Light Brown  
- Other: 

**Turbidity:** None  
- Cloudy  
- Suspended Particles  
- Other: 

**Water Temperature:** F  
- Not Available

**Accumulated Materials**

**Floatables:** None  
- Sheen  
- Foam  
- Sewage  
- Litter  
- Other: Leaves  
- Sample Collected: Y  
- N

**Oil in Oil Port:** Y  
- N  
- N/A  
- Measurement:  
- Calculated: 

**Deposits:** None  
- Sediment  
- Oily  
- Describe: 

**Depth of Sediment:** N/A  
- Measurement: 6”  
- Remaining Capacity  
- Unknown

**Stains:** Y  
- N  
- Work Needed: Y  
- N  
- Describe: 

**Vegetation Conditions:** Normal  
- Excessive Growth  
- Inhibited Growth  
- Describe: 

**Erosion:** None  
- Minor Erosion  
- Major Erosion  
- Erosion Protected  
- Y  
- N

**Immediate Work Needed:** Y  
- N  
- Describe: 

**Next Anticipated Work Date:**

**Inspection Comments / Recommendations**

- **Comments / Recommendations**
  - Remove Sediment when it is within 2.5’ of outlet

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N 46 49.080  
W 92 05.309
University of Minnesota Duluth

STORM WATER INSPECTION FORM

Outfall #: ___________________________ Photograph Name: 11-ST3253 Inspection Date: 10/25/2014
Pond Name: __________________________ Date of last inspection: 10/22/2014
Mechanical Structure #: ST3253 Type: Rain Garden
Location: Griggs firelane Inspector: Erik J. Larson
Weather: Air Temperature: 65 Rain: Y N Date of Last Rain: 10/22/2014 Sunny Cloudy
Describe drainage area: North side of Griggs Beach / Griggs Fire Access Road / Burntside overflow
Shared Use: Y N Describe:

Physical Observations

Condition of Device: Good Average Poor Work Needed: Y N
Describe Work Needed: N/A
Any Materials Within Structure: Deteriorating: Y N Describe: Releasing Pollution: Y N Describe:

Capacity of Pipe: Size of pipe: Depth of Water: Has Source of Flow Been Determined: Y N Source of Water: N/A
Describe Storage Capacity: Minimal Less Than Half Greater Than Half Full Amount Remaining: ________

Flow: Performing Properly Full Overloaded Clogged Other: ________ Work Needed: Y N Describe:

Odor: None Sewage Sulfide Oil Gas Rancid-Sour Other: ________

Color: Normal Dark Brown Light Brown Other: ________

Turbidity: None Cloudy Suspended Particles Other: ________

Water Temperature: ________ F Not Available

Accumulated Materials

Floatables: None Sheen Foam Sewage Litter Other: Sample Collected: Y N Oil in Oil Port: Y N N/A Measurement: Calculated: ________

Describe Work Needed: N/A

Deposits: None Sediment Oily Describe: Sample Collected: Y N Depth of Sediment: N/A Measurement: Remaining Capacity ________

Describe Work Needed: N/A

Stains: Y N Work Needed: Y N Describe:

Vegetation Conditions: Normal Excessive Growth Inhibited Growth Describe: ________

Describe Work Needed: N/A

Erosion: None Minor Erosion Major Erosion Erosion Protected Y N
Describe Work Needed: N/A Minor erosion along edge near basketball court

Immediate Work Needed: Y N Describe:

Next Anticipated Work Date:

Inspection Comments / Recommendations

Comments / Recommendations Completed Date
New 2011
Annual aerating

N 46 49.200 W 92 05.176

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