**Survey Reach ID:** NKP-4  |  **Wtrshd/Subshd:**  |  **Date:** 11/23/07  |  **Assessed By:** 56+CM

**Start:**  |  **Time:** 10:15 AM/PM  |  **LMK:** B  |  **End:**  |  **Time:** 11:45 AM/PM  |  **LMK:** A  |  **GPS ID:**  

**Lat:** 41° 43' 04''  |  **Long:** 72° 43' 24''  |  **Lat:** 41° 48' 18''  |  **Long:** 72° 43' 34''  |  **Description:**  

**Rain in Last 24 Hours:**  
- ☐ Heavy rain
- ☐ Steady rain
- ☐ None
- ☐ Intermittent
- ☐ Trace
- ☐ Overcast
- ☐ Partly cloudy

**Present Conditions:**  
- ☐ Heavy rain
- ☐ Steady rain
- ☐ Intermittent
- ☐ Clear
- ☐ Trace
- ☐ Overcast
- ☐ Partly cloudy

**Surrounding Land Use:**  
- ☐ Industrial
- ☐ Commercial
- ☐ Golf course
- ☐ Park
- ☐ Urban/Residential
- ☐ Suburban/Res.
- ☐ Forested
- ☐ Institutional
- ☐ Crop
- ☐ Pasture
- ☐ Other:

### Average Conditions (check applicable)

- **Base Flow as %:** 0-25%  |  50%-75%  |  75-100%
- **Channel Width:** 25-50%  |  50%  |  75-100%

**Dominant Substrate:**  
- ☐ Silt/clay (fine or slick)
- ☐ Sand (gritty)
- ☐ Gravel (0.1-2.5’’)
- ☐ Bed rock
- ☐ Cobble (2.5-10’’)
- ☐ Boulder (>10’’)

**Water Clarity:**  
- ☐ Clear
- ☐ Turbid (suspended matter)
- ☐ Stained (clear, naturally colored)
- ☐ Opaque (milky)
- ☐ Other (chemicals, dyes)

**Aquatic Plants in Stream:**  
- Attached: ☐ none  |  ☐ some  |  ☐ lots
- Floating: ☐ none  |  ☐ some  |  ☐ lots

**Wildlife in or Around Stream:**  
- ☐ Fish  |  ☐ Beaver  |  ☐ Deer
- ☐ Snails  |  ☐ Other:

**Stream Shading (water surface):**  
- Mostly shaded (>75% coverage)
- Halfway (50-75%)
- Partially shaded (<75%)
- Unshaded (< 25%)

**Channel Dynamics:**  
- ☐ Downcutting
- ☐ Widening
- ☐ Headcutting
- ☐ Aggrading
- ☐ Sed. deposition
- ☐ Bed scour
- ☐ Bank failure
- ☐ Bank scour
- ☐ Slope failure
- ☐ Channelized

**Channel Dimensions:**  
- Height: LT bank 30’’ (ft)
- RT bank 30’’ (ft)
- Width: Bottom 39’’ 8’’ (ft)
- Top 30’’ 8’’ (ft)

### Reach Accessibility

**Good:** Open area in public ownership, sufficient room to stockpile materials, easy stream channel access for heavy equipment using existing roads or trails.  
**Fair:** Forested or developed area adjacent to stream, access requires limited removal or impact to landscaped areas. Stockpile areas small or distant from stream.  
**Difficult:** Must cross wetland, steep slope, or sensitive areas to get to stream. Few areas to stockpile available and/or located a great distance from stream. Specialized heavy equipment required.

**Notes:** (biggest problem you see in survey reach)

**Impacted Buffer - Residential Lawns**

**Reported to Authorities:**  
- ☐ Yes  |  ☐ No
### OVERALL STREAM CONDITION

<table>
<thead>
<tr>
<th><strong>IN-STREAM HABITAT</strong> (May modify criteria based on appropriate habitat regime)</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greater than 70% of substrate favorable for epipatal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobbles or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).</td>
<td>40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrates in the form of rewill, but not yet prepared for colonization (may rate at high end of scale).</td>
<td>20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.</td>
<td>Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacklack.</td>
<td></td>
</tr>
<tr>
<td>20 19 18 17 16</td>
<td>15 14 13 12 11</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>VEGETATIVE PROTECTION</strong> (score each bank; determine sides by facing downstream)</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than 50% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.</td>
<td>70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.</td>
<td>50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.</td>
<td>Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.</td>
<td></td>
</tr>
<tr>
<td>Left Bank 10 9</td>
<td>8 7 6</td>
<td>5 4 3</td>
<td>2 1 0</td>
<td></td>
</tr>
<tr>
<td>Right Bank 10 9</td>
<td>8 7 6</td>
<td>5 4 3</td>
<td>2 1 0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>BANK EROSION</strong> (facing downstream)</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems.</td>
<td>Grade and width stable; isolated areas of bank failure/erosion; likely caused by a pipe outfall, local scour, impaired riparian vegetation or adjacent use.</td>
<td>Past downcutting evident, active stream widening, banks actively eroding at a moderate rate; no threat to property or infrastructure.</td>
<td>Active downcutting; tail banks on both sides of the stream eroding at a fast rate; erosion contributing significant amount of sediment to stream; obvious threat to property or infrastructure.</td>
<td></td>
</tr>
<tr>
<td>Left Bank 10 9</td>
<td>8 7 6</td>
<td>5 4 3</td>
<td>2 1 0</td>
<td></td>
</tr>
<tr>
<td>Right Bank 10 9</td>
<td>8 7 6</td>
<td>5 4 3</td>
<td>2 1 0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>FLOODPLAIN CONNECTION</strong></th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched.</td>
<td>High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched.</td>
<td></td>
</tr>
<tr>
<td>20 19 18 17 16</td>
<td>15 14 13 12 11</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
</tbody>
</table>

### OVERALL BUFFER AND FLOODPLAIN CONDITION

<table>
<thead>
<tr>
<th><strong>VEGETATED BUFFER WIDTH</strong></th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width of buffer zone &gt;50 feet; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, crops) have not impacted zone.</td>
<td>Width of buffer zone 25-50 feet; human activities have impacted zone only minimally.</td>
<td>Width of buffer zone 10-25 feet; human activities have impacted zone a great deal.</td>
<td>Width of buffer zone &lt;10 feet; little or no riparian vegetation due to human activities.</td>
<td></td>
</tr>
<tr>
<td>Left Bank 10 9</td>
<td>8 7 6</td>
<td>5 4 3</td>
<td>2 1 0</td>
<td></td>
</tr>
<tr>
<td>Right Bank 10 9</td>
<td>8 7 6</td>
<td>5 4 3</td>
<td>2 1 0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>FLOODPLAIN VEGETATION</strong></th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Predominant floodplain vegetation type is mature forest.</td>
<td>Predominant floodplain vegetation type is young forest.</td>
<td>Predominant floodplain vegetation type is shrub or old field.</td>
<td>Predominant floodplain vegetation type is turf or crop land.</td>
<td></td>
</tr>
<tr>
<td>20 19 18 17 16</td>
<td>15 14 13 12 11</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>FLOODPLAIN HABITAT</strong></th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Even mix of wetland and non-wetland habitats, evidence of standing/ponded water.</td>
<td>Even mix of wetland and non-wetland habitats, no evidence of standing/ponded water.</td>
<td>Either all wetland or all non-wetland habitat, evidence of standing/ponded water.</td>
<td>Either all wetland or all non-wetland habitat, no evidence of standing/ponded water.</td>
<td></td>
</tr>
<tr>
<td>20 19 18 17 16</td>
<td>15 14 13 12 11</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>FLOODPLAIN ENCROACHMENT</strong></th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>No evidence of floodplain encroachment in the form of fill material, land development, or manmade structures.</td>
<td>Minor floodplain encroachment in the form of fill material, land development, or manmade structures, but not affecting floodplain function.</td>
<td>Moderate floodplain encroachment in the form of filling, land development, or manmade structures, some effect on floodplain function.</td>
<td>Significant floodplain encroachment (i.e. fill material, land development, or man-made structures). Significant effect on floodplain function.</td>
<td></td>
</tr>
<tr>
<td>20 19 18 17 16</td>
<td>15 14 13 12 11</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
</tbody>
</table>

Sub Total In-stream: 165 /80 + Buffer/Floodplain: 51 /80 = Total Survey Reach 116 /160
**Watershed/Subshed:** NEP  
**Survey Reach:** 4  
**Time:** 11:00 AM/PM  
**Photo ID:** (Camera-Pic #) 12-41/#  
**Site ID:** (Condition #) IB  
**Start Lat:** 41°48'10"  
**Start Long:** 72°43'26"  
**Start LMK:** LMK Resct.  
**End Lat:** 41°48'18"  
**End Long:** 72°43'54"  
**End LMK:** LMK Anchored  

**Impacted Bank:**  
- LT  
- RT  
- Both  

**Reason Inadequate:**  
- Lack of vegetation  
- Too narrow  
- Widespread invasive plants  
- Recently planted  
- Other:  

**Land Use:**  
- Private  
- Institutional  
- Golf Course  
- Park  
- Other Public  

**Dominant Land Cover:**  
- Paved  
- Bare ground  
- Turf/laWN  
- Tall grass  
- Shrub/scrub  
- Trees  
- Other  

**Invasive Plants:**  
- None  
- Rare  
- Partial coverage  
- Extensive coverage  
- Unknown  

**Stream Shade Provided?**  
- None  
- Partial  
- Full  

**Wetlands Present?**  
- No  
- Yes  
- Unknown  

**Potential Restoration Candidate:**  
- Active reforestation  
- Greenway design  
- Natural regeneration  
- Invasive removal  
- Other:  

**Restorable Area**  
- LT Bank  
- RT  

**Reforestation Potential:**  
- (Circle #)  

**Notes:**  
Residential yard space up to top of bank, areas are mown actively + grass is short ("mow"). Yard waste dumping in ephemeral area + in places at bank top + even in water oaternal.  
See photo PE 23010.jpg for overall  
See photo PE 23011.jpg for minor bank erosion.
**Impacted Buffer**

**Watershed/Subshed:** N&L  
**Survey Reach:** 4  
**Site ID (Condition #:)** IB  
**Start Lat:** 41° 48' 15"  
**Long:** 82° 43' 32"  
**End Lat:**  
**Long:**  
**LMK:**

**Impacted Bank:** LT □ RT □ Both  
**Reason Inadequate:** Lack of vegetation □ Too narrow □ Widespread invasive plants □ Recently planted □ Other: Residential/Private Property

**Land Use:**  
(Facing downstream) LT Bank □ Private □ Institutional □ Golf Course □ Park □ Other □  
RT Bank □  
**Dominant Land Cover:** Paved □ Bare ground □ Turf/lawn □ Tall grass □ Shrub/scrub □ Trees □ Other □  
**Land Cover:** LT Bank □  
RT Bank □

**Invasive Plants:** None □ Rare □ Partial coverage □ Extensive coverage □ unknown

**Stream Shade Provided?** None □ Partial □ Full □  
**Wetlands Present?** No □ Yes □ Unknown

**Potential Restoration Candidate** □ Active reforestation □ Greenway design □ Natural regeneration □ Invasives removal □ Other:

**Restorable Area**

<table>
<thead>
<tr>
<th>Length (ft):</th>
<th>LT Bank</th>
<th>RT</th>
</tr>
</thead>
<tbody>
<tr>
<td>15'</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Reforestation Potential:** (Circle #)

<table>
<thead>
<tr>
<th>Impacted area on public land where the riparian area does not appear to be used for any specific purpose; plenty of area available for planting</th>
<th>Impacted area on either public or private land that is presently used for a specific purpose; available area for planting adequate</th>
<th>Impacted area on private land where road, building encroachment or other feature significantly limits available area for planting</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>

**Potential Conflicts with Reforestation**

□ Widespread invasive plants □ Potential contamination □ Lack of sun □ Poor/unsafe access to site □ Existing impervious cover □ Severe animal impacts (deer, beaver) □ Other:

**Notes:** There is an outflow pipe located approx. 5 feet upstream of the erosion (you can just see it in the photo [P02 30011]). This is residential/private property.
**Storm Water Outfalls**

**WATERSHED/SUBSHED:** NEP

**DATE:** 1/28/09 **ASSESSED BY:** BAC

**SURVEY REACH ID:** 9 **TIME:** AM/PM **PHOTO ID:** (Camera-Pic #)

**SITE ID (Condition #):** OT- A **LAT:** 41° 41.6' N **LONG:** 72° 43' 25.1" LMK **GPS:** (Unit ID)

**BANK:** [ ] LT [ ] RT [ ] Head

**FLOW:** [ ] None [ ] trickle [ ] Moderate [ ] Substantial [ ] Other:

[ ] Open channel

**TYPE:** [ ] Closed pipe

**CONDITION:** [ ] None [ ] Chip/Cracked [ ] Peeling Paint [ ] Corrosion [ ] Other:

**TYPE:** [ ] Concrete [ ] Metal [ ] PVC/Plastic [ ] Brick [ ] Other:

**SUBMERGED:** [ ] No [ ] Partially [ ] Fully

[ ] Earthen

**DIAMETER:** (in)

**SHAPE:** [ ] Single [ ] Circular [ ] Double [ ] Elliptical [ ] Triple [ ] Other:

[ ] Trapezoid [ ] Parabolic Width (Top): (in) [ ] Other:

**DIMENSIONS:** Depth: (in) Width (Bottom): (in)

**DEPOSITS/STAINS:** [ ] None [ ] Only [ ] Flow Line [ ] Paint [ ] Other:

**POOL QUALITY:** [ ] None pool [ ] Good [ ] Odors [ ] Colors [ ] Oils [ ] Suds [ ] Algae [ ] Floatables [ ] Other:

**ODOR:** [ ] None [ ] Gas [ ] Sewage [ ] Rancid/Sour [ ] Sulfide [ ] Other:

**PIPE BENTHIC GROWTH:** [ ] None

**VEGGIE DENSITY:** [ ] None [ ] Normal [ ] Inhibited [ ] Excessive [ ] Other:

[ ] Brown [ ] Orange [ ] Green [ ] Other:

**VARIABLES:**

<table>
<thead>
<tr>
<th>COLOR</th>
<th>Clear</th>
<th>Brown</th>
<th>Grey</th>
<th>Yellow</th>
<th>Green</th>
<th>Orange</th>
<th>Red</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>TURBIDITY</td>
<td>None</td>
<td>Slight Cloudiness</td>
<td>Cloudy</td>
<td>Opague</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FLOATABLES</td>
<td>None</td>
<td>Sewage (toilet paper, etc.)</td>
<td>Petroleum (oil sheen)</td>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**OTHER CONCERNS:** [ ] Excess Trash (paper/plastic bags) [ ] Dumping (bulk) [ ] Excessive Sedimentation [ ] Needs Regular Maintenance [ ] Bank Erosion [ ] Other:

**POTENTIAL RESTORATION CANDIDATE** [ ] Discharge investigation [ ] Stream daylighting [ ] Local stream repair/outfall stabilization [X] 30 [ ] Storm water retrofit [ ] Other:

**If yes for daylighting:**

Length of vegetative cover from outfall: ________ ft Type of existing vegetation: ________ Slope: ________°

**If yes for stormwater:**

Is stormwater currently controlled? [ ] Yes [ ] No [ ] Not investigated Land Use description: ____________________________

[ ] Yes [ ] No [ ] Not investigated Area available: ____________________________

**OUTFALL SEVERITY:**

Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream. Small discharge; flow mostly clear and odorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor / localized. Outfall does not have dry weather discharge; staining; or appearance of causing any erosion problems.

**OUTFALL SEVERITY (circle #):** 5 4 3 2 (1)

**REPORTED TO AUTHORITIES:** [ ] Yes [ ] No

**SKETCH/NOTES:**
Storm Water Outfalls

**Watershed/Subshed:** NSP  **Date:** 11/23/07  **Assessed By:** CM/EB

**Survey Reach ID:** 4  **Time:**  AM/PM  **Photo ID:** (Camera-Pic #) #

**Site ID (Condition #): OT-3**  **Lat:** 41° 48'  **Long:** 79° 43' 20"  **LMK**

**GPS: (Unit ID)**

<table>
<thead>
<tr>
<th>Bank:</th>
<th>Type:</th>
<th>Material:</th>
<th>Shape:</th>
<th>Dimensions:</th>
<th>Submerged:</th>
</tr>
</thead>
<tbody>
<tr>
<td>LT</td>
<td>Closed pipe</td>
<td>Concrete</td>
<td>Single</td>
<td>Diameter: 10&quot; (in)</td>
<td>No</td>
</tr>
<tr>
<td>RT</td>
<td>Other:</td>
<td>Other:</td>
<td>Circular</td>
<td>Width (Top):</td>
<td>Partially</td>
</tr>
<tr>
<td>Head</td>
<td>Other:</td>
<td>Other:</td>
<td>Double</td>
<td>Width (Bottom):</td>
<td>Fully</td>
</tr>
</tbody>
</table>

**Flow:** None | Trickle | None | Moderate | Substantial | Other: |

**Condition:** None | Chip/Cracked | Peeling Paint | Corrosion | Other: |

**Odor:** No | Sewage | Rancid/Sour | Sulfide | Other: |

**Deposits/STAINS:** None | Oily | Flow Line | Paint | Other: |

**Vegetation Density:** None | Normal | Inhibited | Excessive | Other: |

**Pipe Benthic Growth:** None | Brown | Orange | Green | Other: |

**Pool Quality:** No pool | Good | Odors | Colors | Oils | Suds | Algae | Floatables | Other: |

**For Flowing:**

<table>
<thead>
<tr>
<th>Color:</th>
<th>Turbidity:</th>
<th>Floatables:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Brown</td>
<td>Slight Cloudiness</td>
<td>Sewage (toilet paper, etc.)</td>
</tr>
<tr>
<td>Grey</td>
<td>Cloudy</td>
<td>Petroleum (oil sheen)</td>
</tr>
<tr>
<td>Yellow</td>
<td>Opaque</td>
<td>Other:</td>
</tr>
<tr>
<td>Green</td>
<td>Other:</td>
<td>Other:</td>
</tr>
<tr>
<td>Orange</td>
<td>Other:</td>
<td>Other:</td>
</tr>
<tr>
<td>Red</td>
<td>Other:</td>
<td>Other:</td>
</tr>
</tbody>
</table>

**Other Concerns:** Excess Trash (paper/plastic bags) | Dumping (bulk) | Excessive Sedimentation |

**Potential Restoration Candidate:** Discharge investigation | Stream daylighting | Local stream repair/outfall stabilization |

**If yes for daylighting:**

- Length of vegetative cover from outfall: _________ ft
- Type of existing vegetation: ________________
- Slope: ________°

**If yes for stormwater:**

- Is stormwater currently controlled? Yes | No | Not investigated
- Land Use Description: Residencial
- Area available:

**Outfall Severity:**

<table>
<thead>
<tr>
<th>Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.</th>
<th>Small discharge; flow mostly clear and odorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor/localized.</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>NO</td>
</tr>
</tbody>
</table>

**Sketch/Notes:** Located approximately 5' upstream of mine bank erosion + residential lawns.

**Reported to Authorities:** Yes | No
**Storm Water Outfalls**

**WATERSHED/SUBWATERSHED:** NEP

**SURVEY REACH ID:** 4

**SITE ID (Condition):** OT

**LAT:** 41° 48' 14.7" **LONG:** 72° 43' 31.7"

**TIME:** AM/PM

**PHOTO ID:** (Camera-Pic #)

**DATE:** 1/23/09

**ASSESSED BY:** CMW (CMM)

**BANK:**
- ALT
- RTR
- Head

**FLOW:**
- None
- Trickle
- Moderate
- Substantial
- Other:

**TYPE:**
- Closed pipe
- Open channel

**MATERIAL:**
- Concrete
- Metal
- PVC/Plastic
- Brick
- Other:

**SHAPE:**
- Single
- Circular
- Double
- Elliptical
- Triple
- Other:

**DIMENSIONS:**
- Diameter: 1/2 (in)
- Depth: (in)
- Width (Top): (in)
- " (Bottom): (in)

**CONDITION:**
- None
- Chip/Cracked
- Peeling Paint
- Corrosion
- Other:

**ODOR:**
- No
- Gas
- Sewage
- Rancid/Sour
- Sulfide
- Other:

**DEPOSITS/STAINS:**
- None
- Oily
- Flow Line
- Paint
- Other:

**VEGGIE DENSITY:**
- None
- Normal
- Inhibited
- Excessive
- Other:

**PIPE BENTHIC GROWTH:**
- None
- Brown
- Orange
- Green
- Other:

**POOL QUALITY:**
- No pool
- Good
- Odors
- Colors
- Oils
- Suds
- Algae
- Floatables
- Other:

**FOR FLOWING ONLY**

**COLOR:**
- Clear
- Brown
- Grey
- Yellow
- Green
- Orange
- Red
- Other:

**TURBIDITY:**
- None
- Slight Cloudiness
- Cloudy
- Opaque

**FLOATABLES:**
- None
- Sewage (toilet paper, etc.)
- Petroleum (oil sheen)
- Other:

**OTHER CONCERNS:**
- Excess Trash (paper/plastic bags)
- Dumping (bulk)
- Excessive Sedimentation
- Needs Regular Maintenance
- Bank Erosion
- Other:

**POTENTIAL RESTORATION CANDIDATE**
- Discharge investigation
- Stream daylighting
- Local stream repair/outfall stabilization
- No
- Storm water retrofit
- Other:

*If yes for daylighting:*

Length of vegetative cover from outfall: __________ ft
Type of existing vegetation: __________________________
Slope: __________°

*If yes for stormwater:*

Is stormwater currently controlled? __________
Land Use description: __________________________

- Yes
- No
- Not investigated

**OUTFALL SEVERITY:**

- Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.

- Small discharge; flow mostly clear and colorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor/localized.

Outfall does not have dry weather discharge; staining; or appearance of causing any erosion problems.

**NUMBER:**

**5 4 3 2 1**

**REPORTED TO AUTHORITIES:**

- Yes
- No

**SKETCH/NOTES:**

Pipe is putting out slightly, approx 5'
**Stream Crossing**

**Watershed/Subshed:** NBP

**Survey Reach ID:** NBP-4

**Site ID:** SC

**Date:** 11/23/07

**Time:** 11:45 AM

**Photo ID:** (Camera-Film #) 12

**Location:**
- **Lat:** 41° 45′ 18″
- **Long:** 72° 43′ 34″
- **LMK:** 9905

**GPS (Unit ID):**

**Type:** ✔ Road Crossing  ☐ Railroad Crossing  ☐ Manmade Dam  ☐ Beaver Dam  ☐ Geological Formation  ☐ Other:

**Shape:**
- ✔ Arch
- ☐ Bottomless
- ☐ Box
- ☐ Elliptical
- ☐ Circular
- ☐ Other:

**Barrels:**
- ☐ Single
- ☐ Double
- ☐ Triple
- ☐ Other: 4

**Material:**
- ✔ Concrete
- ☐ Metal
- ☐ Other:

**Alignment:**
- ✔ Flow-aligned
- ☐ Not flow-aligned
- ☐ Do not know

**Dimensions:**
- Barrel diameter: 8.5 ft
- Height: 8.5 ft
- Culvert length: 64 ft
- Width: 12′ x 4 ft
- Roadway elevation: __________ ft

**Potential Restoration Candidate:**
- ☐ Fish barrier removal
- ☐ Culvert repair/replacement
- ☐ Upstream storage retrofit
- ☐ Local stream repair
- ☐ Other:

**Is SC acting as grade control:**
- ☐ No
- ☐ Yes
- ☐ Unknown

**Extent of Physical Blockage:**
- ☐ Total
- ☐ Partial
- ☐ Temporary
- ☐ Unknown

**If yes for fish barrier:**
- Cause:
  - ☐ Drop too high
  - ☐ Flow too shallow

- Water Drop: ______ (in)
- Water Depth: ______ (in)

**Blockage Severity:**
- A structure such as a dam or road culvert on a 3rd order or greater stream blocking the upstream movement of anadromous fish; no fish passage device present.
- A total fish blockage on a tributary that would isolate a significant reach of stream, or partial blockage that may interfere with the migration of anadromous fish.
- A temporary barrier such as a beaver dam or a blockage at the very head of a stream with very little viable fish habitat above it; natural barriers such as waterfalls.

**Notes/Sketch:**

SOUND 4-8 MM CONCRETE BOX CULVERT, NO IMPACT TO FLOW OR FISH PASSAGE

**Reported to authorities:**
- ☐ Yes
- ☐ No
### Survey Reach ID: 9

**Wtrshd/Subshd:** NEP

**Survey Information:**
- **Start Time:** 9:30 AM
- **Start Lat:** 41° 47' 54"
- **Start Long:** 2° 40' 40"
- **Description:** Creek/road crossing

**End Time:** 3:48 AM
- **End Lat:** 41° 47' 48"
- **End Long:** 2° 43' 06"
- **Description:** Avenue (2) inputs

**Rain in Last 24 Hours:**
- □ Heavy rain
- □ Steady rain
- □ None
- □ Intermittent

**Surrounding Land Use:**
- □ Industrial
- □ Commercial
- □ Golf course
- □ Park
- □ Urban/Residential
- □ Suburban/Res
- □ Forested
- □ Institutional
- □ Crop
- □ Pasture
- □ Other

**Average Conditions:**
- **Base Flow as %:** □ 0-25%
- □ 50%-75%
- □ 75-100%

- **Channel Width:** □ 25-50%
- □ 50-75%
- □ 75-100%

**Dominant Substrate:**
- □ Silt/clay (fine or slick)
- □ Gravel (0.1-2.5")
- □ Cobble (2.5-10")
- □ Boulder (>10")
- □ Bed rock

**Water Clarity:**
- □ Clear
- □ Turbid (suspended matter)
- □ Stained (clear, naturally colored)
- □ Opaque (milky)
- □ Other (chemicals, dyes)

**Aquatic Plants in Stream:**
- Attached: □ none
- □ some
- □ lots
- Floating: □ none
- □ some
- □ lots

**Wildlife in or Around Stream:**
- □ Evidence of
- □ Fish
- □ Beaver
- □ Deer
- □ Snails
- □ Other

**Stream Shading (water surface):**
- □ Mostly shaded (>75% coverage)
- □ Halfway (≥50%)
- □ Partly shaded (≥25%)
- □ Unshaded (<25%)

**Channel Dynamics:**
- □ Downcutting
- □ Widening
- □ Headcutting
- □ Aggrading
- □ Sed. deposition
- □ Bed scour
- □ Bank failure
- □ Bank scour
- □ Slope failure
- □ Channelized

**Channel Dimensions (Facing Downstream):**
- **Height:** LT bank
- □ Width: RT bank
- □ Bottom: (ft)
- □ Top: (ft)

**Reach Accessibility:**
- Good: Open area in public ownership, sufficient room to stockpile materials, easy stream channel access for heavy equipment using existing roads or trails.
- Fair: Forested or developed area adjacent to stream, access requires tree removal or impact to landscaped areas. Stockpile areas small or distant from stream.
- Difficult: Must cross wetland, steep slopes, or sensitive areas to get to stream. Few areas to stockpile available and/or located a great distance from stream. Specialized heavy equipment required.

**Notes:** (biggest problem you see in survey reach)

- Some impacted water associated with private landowners - difficult accessibility to bedrock substrate would likely make this a poor candidate for restoration.
<table>
<thead>
<tr>
<th><strong>OVERALL STREAM CONDITION</strong></th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IN-STREAM HABITAT</strong></td>
<td>Greater than 70% of substrate favorable for epiphytic colonization and fish cover; mix of snags, submerged logs, undercut banks, cobbles or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transients).</td>
<td>40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).</td>
<td>20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.</td>
<td>Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.</td>
</tr>
<tr>
<td><strong>VEGETATIVE PROTECTION</strong></td>
<td>More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes, vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.</td>
<td>70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.</td>
<td>50-70% of the streambank surfaces covered by vegetation; disruption evident; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.</td>
<td>Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.</td>
</tr>
<tr>
<td><strong>BANK EROSION</strong></td>
<td>Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems.</td>
<td>Grade and width stable; isolated areas of bank failure/erosion; likely caused by a pipe outfall, lateral scour, impaired riparian vegetation or adjacent use.</td>
<td>Past downcutting evident, active stream widening, banks actively eroding at a moderate rate; no threat to property or infrastructure.</td>
<td>Active downcutting; tail banks on both sides of the stream eroding at a fast rate; erosion contributing significant amount of sediment to stream; obvious threat to property or infrastructure.</td>
</tr>
<tr>
<td><strong>FLOODPLAIN CONNECTION</strong></td>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>High flows (greater than bankfull) able to enter floodplain. Stream deeply entrenched.</td>
<td>High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>OVERALL BUFFER AND FLOODPLAIN CONDITION</strong></th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vegetated Buffer Width</strong></td>
<td>Width of buffer zone &gt;50 feet; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, crops) have not impacted zone.</td>
<td>Width of buffer zone 25-50 feet; human activities have impacted zone only minimally.</td>
<td>Width of buffer zone 10-25 feet; human activities have impacted zone quite a bit.</td>
<td>Width of buffer zone &lt;10 feet; little or no riparian vegetation due to human activities.</td>
</tr>
<tr>
<td><strong>Floodplain Vegetation</strong></td>
<td>Predominant floodplain vegetation type is mature forest.</td>
<td>Predominant floodplain vegetation type is young forest.</td>
<td>Predominant floodplain vegetation type is shrub or old field.</td>
<td>Predominant floodplain vegetation type is turf or crop land.</td>
</tr>
<tr>
<td><strong>Floodplain Habitat</strong></td>
<td>Even mix of wetland and non-wetland habitats, evidence of standing/ponded water.</td>
<td>Even mix of wetland and non-wetland habitats, no evidence of standing/ponded water.</td>
<td>Either all wetland or all non-wetland habitat, evidence of standing/ponded water.</td>
<td>Either all wetland or all non-wetland habitat, no evidence of standing/ponded water.</td>
</tr>
<tr>
<td><strong>Floodplain Encroachment</strong></td>
<td>No evidence of floodplain encroachment in the form of fill material, land development, or manmade structures.</td>
<td>Minor floodplain encroachment in the form of fill material, land development, or manmade structures, but not affecting floodplain function.</td>
<td>Moderate floodplain encroachment in the form of filling, land development, or manmade structures, some effect on floodplain function.</td>
<td>Significant floodplain encroachment (i.e., fill material, land development, or man-made structures). Significant effect on floodplain function.</td>
</tr>
</tbody>
</table>

**Sub Total In-stream:** 127/160

**Buffer/Floodplain:** 56/80

**Total Survey Reach:** 183/160
Impacted Buffer

WATERSHED/SUBSHED: N5P

SURVEY REACH: 1

SITE ID: (Condition #) IB-

IMPACTED BANK: □ LT □ RT □ Bath

REASON INADEQUATE: □ Lack of vegetation □ Too narrow □ Widespread invasive plants
□ Recently planted □ Other: Detailed buffer is ~10' wide

LAND USE:
□ Private □ Institutional □ Golf Course □ Park □ Other Public
□ RT Bank □ Other:

DOMINANT LAND COVER:
□ Paved □ Bare ground □ Turf/lawn □ Tall grass □ Shrub/scrub □ Trees □ Other
□ RT Bank □ Other:

INVASIVE PLANTS:
□ None □ Rare □ Partial coverage □ Extensive coverage □ unknown

STREAM SHADE PROVIDED? □ None □ Partial □ Full □ Wetlands present? □ No □ Yes □ Unknown

POTENTIAL RESTORATION CANDIDATE
□ Active reforestation □ Greenway design □ Natural regeneration □ Invasives removal
□ No □ Other:

RESTORABLE AREA

Length (ft): □ LT Bank □ RT Bank

WIDTH (ft):

REFORESTATION POTENTIAL:
(Circle #)

Potentially impacted area on public land
where the riparian area does not appear to be used for any specific purpose; plenty
of area available for planting

Potentially impacted area on either
closest ear or private land that is
public or private land that is
designated for specific purpose; available area for
area designated for specific purpose; available area for
planting adequate

Impact area on private
land where road; building
culverts or other
encroachment or other
feature significantly limits
available area for planting

5 4 3 2 1

POTENTIAL CONFLICTS WITH REFORESTATION
□ Widespread invasive plants □ Potential contamination □ Lack of sun
□ Poor/unsafe access to site □ Existing impervious cover □ Severe animal impacts (deer, beaver) □ Other:

NOTES:
- Thin forested area with maintenance lawn on other side
  on U-Hartford campus.
- Landmark op start to IB = 8-bay culvert/stream crossing
that marks the start of reach 9
- Landmark to end to IB = student overpass bridge
### Impacted Buffer

**Watershed/Subshed:** NBP

**Survey Reach:**

<table>
<thead>
<tr>
<th>Site ID: (Condition #)</th>
<th>Start Lat: 41° 47' 34&quot; Long: 72° 43' 07&quot;</th>
<th>LMK</th>
<th>GPS: (Unit ID)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IB: E</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>End Lat: 41° 47' 58&quot; Long: 72° 43' 06&quot;</td>
<td>LMK</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Impacted Bank:**
- [x] LT
- [ ] RT
- [ ] Both

**Reason Inadequate:**
- [x] Lack of vegetation
- □ Too narrow
- □ Widespread invasive plants
- □ Recently planted
- □ Other: Residential landscaping

**Land Use:**
- [x] Private
- □ Institutional
- □ Golf Course
- □ Park
- □ Other:

(Facing downstream) LT Bank
- □ Paved
- □ Bare ground
- □ Turf/lawn
- □ Tall grass
- □ Shrub/scrub
- □ Trees
- □ Other: Bedrock cliff on RB

RT Bank
- □ Paved
- □ Bare ground
- □ Turf/lawn
- □ Tall grass
- □ Shrub/scrub
- □ Trees
- □ Other: Bedrock cliff

**Dominant Land Cover:**
- □ LT Bank
- □ RT Bank

**Invasive Plants:**
- □ None
- □ Rare
- □ Partial coverage
- □ Extensive coverage
- □ unknown

**Stream Shade Provided?**
- □ None
- □ Partial
- □ Full

**Wetlands Present?**
- □ No
- □ Yes
- □ Unknown

**Potential Restoration Candidate**
- □ Active reforestation
- □ Greenway design
- □ Natural regeneration
- □ Invasives removal
- □ no
- □ Other:

**Restorable Area**

<table>
<thead>
<tr>
<th>Length (ft):</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width (ft):</td>
<td></td>
</tr>
</tbody>
</table>

**Reforestation Potential:**

| Impacted area on public land where the riparian area does not appear to be used for any specific purpose; plenty of area available for planting |
| Impacted area on either public or private land that is presently used for a specific purpose; available area for planting adequate |
| Impacted area on private land where road; building encroachment or other feature significantly limits available area for planting |

**Potential Conflicts with Reforestation**

- □ Widespread invasive plants
- □ Potential contamination
- □ Lack of sun
- □ Poor/unsafe access to site
- □ Existing impervious cover
- □ Severe animal impacts (deer, beaver)
- □ Other:

**Notes:**

 impacted area is located on private property + is a maintained lawn w/ some yard waste disposal at edge of river. The right bank is a bedrock cliff.
Storm Water Outfalls

<table>
<thead>
<tr>
<th>WATERSHED/SUBSHED:</th>
<th>NISP</th>
<th>DATE:</th>
<th>11/23/09</th>
<th>ASSESSED BY:</th>
<th>cmw/185</th>
</tr>
</thead>
<tbody>
<tr>
<td>SURVEY REACH ID:</td>
<td>9</td>
<td>TIME:</td>
<td>AM/PM</td>
<td>PHOTO ID:</td>
<td>(Camera-Pic #)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td># P033031</td>
</tr>
<tr>
<td>SITE ID (Condition #: OT:</td>
<td>A</td>
<td>LAT:</td>
<td>41° 47' 54&quot;</td>
<td>LONG:</td>
<td>72° 42' 40&quot;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BANK:</th>
<th>LT</th>
<th>RT</th>
<th>Head</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLOW:</td>
<td>None</td>
<td>Trickle</td>
<td>Moderate</td>
</tr>
<tr>
<td></td>
<td>Open channel</td>
<td>Concrete</td>
<td>Earthen</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TYPE:</th>
<th>MATERIAL:</th>
<th>SHAPE:</th>
<th>DIMENSIONS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Closed pipe</td>
<td>Concrete</td>
<td>Circular</td>
<td>Single diameter 24&quot;</td>
</tr>
<tr>
<td>Open channel</td>
<td>Concrete</td>
<td>Elliptical</td>
<td>Double</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>Other:</td>
<td>Width (Top):</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>Other:</td>
<td>Width (Bottom):</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CONDITION:</th>
<th>ODOR:</th>
<th>DEPOSITS/STAINS:</th>
<th>VEGGIE DENSITY:</th>
<th>PIPE BENTHIC GROWTH:</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>No</td>
<td>Gas</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Chip/Cracked</td>
<td>Sewage</td>
<td>Rancid/Sour</td>
<td>Flow Line</td>
<td>Normal</td>
</tr>
<tr>
<td>Peeling Paint</td>
<td>Sulfide</td>
<td>Other:</td>
<td>Paint</td>
<td>Inhibited</td>
</tr>
<tr>
<td>Corrosion</td>
<td>Other:</td>
<td>Other:</td>
<td>Other:</td>
<td>Excessive</td>
</tr>
<tr>
<td>Other:</td>
<td>Other:</td>
<td>Other:</td>
<td>Other:</td>
<td>Other:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PIPE BENTHIC GROWTH:</th>
<th>2</th>
<th>None</th>
<th>2</th>
<th>Other:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brown</td>
<td>Orange</td>
<td>Green</td>
<td>Other:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>POOL QUALITY:</th>
<th>No pool</th>
<th>Good</th>
<th>Odors</th>
<th>Colors</th>
<th>Oils</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suds</td>
<td>Algae</td>
<td>Floatables</td>
<td>Other:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FOR FLOWING ONLY</th>
<th>COLOR:</th>
<th>TURBIDITY:</th>
<th>FLOATABLES:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear</td>
<td>Brown</td>
<td>Grey</td>
<td>Yellow</td>
</tr>
<tr>
<td>None</td>
<td>Slight Cloudiness</td>
<td>Cloudy</td>
<td>Opaque</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OTHER CONCERNS:</th>
<th>Excess Trash (paper/plastic bag)</th>
<th>Dumping (bulk)</th>
<th>Excessive Sedimentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Needs Regular Maintenance</td>
<td>Bank Erosion</td>
<td>Other:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>POTENTIAL RESTORATION CANDIDATE</th>
<th>Discharge investigation</th>
<th>Stream daylighting</th>
<th>Local stream repair/outfall stabilization</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>Storm water retrofit</td>
<td>Other:</td>
<td></td>
</tr>
</tbody>
</table>

If yes for daylighting:
Length of vegetative cover from outfall: ______ ft
Type of existing vegetation: ______
Slope: ______

If yes for stormwater:
Is stormwater currently controlled?
Yes | No | Not investigated

Land Use description: U- Hartford Campus

<table>
<thead>
<tr>
<th>OUTFALL SEVERITY:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.</td>
</tr>
<tr>
<td>Small discharge; flow mostly clear and odorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor/localized.</td>
</tr>
</tbody>
</table>

Area available: ____________

<table>
<thead>
<tr>
<th>OUTFALL SEVERITY:</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
</tr>
</tbody>
</table>

Sketch/Notes: Associated with the 9-bay culvert that marks the division between reaches 9 + 10 (NISP) where there is also an 8-bay culvert.

Reported to authorities: Yes | No
### Storm Water Outfalls

**WATERSHED/SUBSHED:** N80  
**DATE:** 1/23/09  
**ASSESS BY:** CM/89

**SURVEY REACH ID:** 9  
**TIME:** AM/PM  
**PHOTO ID:** (Camera-Pic #) #

**SITE ID** (Condition #: OT: L44c  
**LAT:** 41° 47' 55"  
**LONG:** 72° 42' 55"  
**LMK**  
**GPS:** (Unit ID)

<table>
<thead>
<tr>
<th>BANK</th>
<th>MATERIAL</th>
<th>SHAPE</th>
<th>DIMENSIONS</th>
<th>SUBMERGED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art</td>
<td>Concrete</td>
<td>Single</td>
<td>Circular</td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FLOW</th>
<th>Type</th>
<th>Material</th>
<th>Shape</th>
<th>Dimensions</th>
<th>Submerged</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>Closed</td>
<td>Concrete</td>
<td>Single</td>
<td>Circular</td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CONDITION</th>
<th>ODOR</th>
<th>DEPOSITS/STAINS</th>
<th>VEGGIE DENSITY</th>
<th>PIPE BENTHIC GROWTH</th>
<th>POOL QUALITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FOR FLOWING ONLY</th>
<th>COLOR</th>
<th>TURBIDITY</th>
<th>FLOATABLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clear</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OTHER CONCERNS</th>
<th>POTENTIAL RESTORATION CANDIDATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excess Trash (paper/plastic bags)</td>
<td>Discharge investigation, Stream daylighting, Local stream repair/outfall stabilization</td>
</tr>
</tbody>
</table>

If yes for daylighting:
- Length of vegetative cover from outfall: _____ ft
- Type of existing vegetation: _______
- Slope: _______

If yes for stormwater:
- Is stormwater currently controlled?: _______
- Land Use description: _______

**OUTFALL SEVERITY:**
- Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.
- Small discharge; flow mostly clear and odorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor/localized.

**Outfall does not have dry weather discharge; staining; or appearance of causing any erosion problems.**

**SKETCH/NOTES:**

**REPORTED TO AUTHORITIES:** YES NO
**Watershed/Subshed:** NBP

**Survey Reach ID:** 9

**Site ID (Condition-#):** OT-

**Date:** 11/23/09

**Assessed By:** BYLDM

**Photo ID:** (Camera-Pic #) 9B230033

**BANK:**
- [ ] LT
- [X] RT
- [ ] Head

**Flow:**
- [ ] None
- [ ] Trickle
- [X] Moderate
- [ ] Substantial
- [ ] Other:

**Condition:**
- [ ] None
- [ ] Chip/Cracked
- [ ] Peeling Paint
- [ ] Corrosion
- [ ] Other:

**Type:**
- [ ] Open pipe
- [ ] Closed pipe
- [ ] Other:

**Material:**
- [ ] Concrete
- [ ] PVC/Plastic
- [ ] Brick
- [ ] Other:

**Shape:**
- [ ] Circular
- [ ] Elliptical
- [ ] Trapezoid
- [ ] Other:

**Dimensions:**
- Diameter: ___ (in)
- Depth: ___ (in)
- Width (Top): ___ (in)

**Submerged:**
- [ ] No
- [ ] Partially
- [ ] Fully

**Condition:**
- [ ] None
- [ ] Slight Cloudbiness
- [ ] Cloudy
- [ ] Opaque
- [ ] Petroleum (oil sheen)
- [ ] Other:

**Odor:**
- [ ] None
- [ ] Gas
- [ ] Sewage
- [ ] Rancid/Sour
- [ ] Sulfide
- [ ] Other:

**Deposits/Stains:**
- [ ] None
- [ ] Oily
- [ ] Flow Line
- [ ] Paint
- [ ] Other:

**Vegetation Density:**
- [ ] None
- [ ] Normal
- [ ] Inhibited
- [ ] Excessive
- [ ] Other:

**Pipe Benthic Growth:**
- [ ] None
- [ ] Brown
- [ ] Orange
- [ ] Green
- [ ] Other:

**Pool Quality:**
- [ ] No pool
- [ ] Good
- [ ] Odors
- [ ] Colors
- [ ] Oils
- [ ] Suds
- [ ] Algae
- [ ] Floatables
- [ ] Other:

**Potential Restoration Candidate:**
- [ ] Discharge investigation
- [ ] Stream daylighting
- [ ] Local stream repair/outfall stabilization

**Flowing Only:**
- [ ] Storm water retrofit
- [ ] Storm water retrofit
- [ ] Other:

**Other Concerns:**
- [ ] Excess Trash (paper/plastic bags)
- [ ] Dumping (bulk)
- [ ] Excessive Sedimentation
- [ ] Needs Regular Maintenance
- [ ] Bank Erosion
- [ ] Other:

**Vegetation:**
- Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.

**Sketch/Notes:**
- Outfall pipe located approx. 20 ft from confluence.

**Reported to Authorities:**
- [ ] Yes
- [ ] No
Storm Water Outfalls

<table>
<thead>
<tr>
<th>WATERSHED/SUBSHED: NEP</th>
<th>DATE: 1/23/07</th>
<th>ASSESSED BY: RCO/CMN</th>
</tr>
</thead>
<tbody>
<tr>
<td>SURVEY REACH ID: 9</td>
<td>TIME: <em><strong>:</strong></em> AM/PM</td>
<td>PHOTO ID: (Camera-Pic #: # PB 230837)</td>
</tr>
<tr>
<td>SITE ID (Condition #: OT- E)</td>
<td>LAT: 41° 47', 48&quot; &quot;LONG: 72° 45', 06&quot; &quot;LMK: GPS: (Unit ID)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BANK:</th>
<th>TYPE:</th>
<th>MATERIAL:</th>
<th>SHAPE:</th>
<th>DIMENSIONS:</th>
<th>SUBMERGED:</th>
</tr>
</thead>
<tbody>
<tr>
<td>LT</td>
<td>Closed pipe</td>
<td>Concrete</td>
<td>Circular</td>
<td>Single</td>
<td>No ~ 20'</td>
</tr>
<tr>
<td>ART</td>
<td>Open channel</td>
<td>Other:</td>
<td>Other:</td>
<td>Other:</td>
<td>Partially</td>
</tr>
<tr>
<td>Head</td>
<td>Other:</td>
<td>Other:</td>
<td>Other:</td>
<td>Other:</td>
<td>Fully</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FLOW:</th>
<th>CONDITION:</th>
<th>ODOR:</th>
<th>DEPOSITS/STAINS:</th>
<th>VEGGIE DENSITY:</th>
<th>PIPE BENTHIC GROWTH:</th>
<th>POOL QUALITY:</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>No</td>
<td>Gas</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>No pool</td>
</tr>
<tr>
<td>Trickle</td>
<td>Chip/Cracked</td>
<td>Sewage</td>
<td>Only</td>
<td>Normal</td>
<td>Brown</td>
<td>Good</td>
</tr>
<tr>
<td>Moderate</td>
<td>Peeling Paint</td>
<td>Racid/Sour</td>
<td>Flow Line</td>
<td>Inhibited</td>
<td>Orange</td>
<td>Odors</td>
</tr>
<tr>
<td>Substantial</td>
<td>Corrosion</td>
<td>Sulfide</td>
<td>Paint</td>
<td>Excessive</td>
<td>Other:</td>
<td>Colors</td>
</tr>
<tr>
<td>Other:</td>
<td>Other:</td>
<td>Other:</td>
<td>Other:</td>
<td>Other:</td>
<td>Other:</td>
<td>Oils</td>
</tr>
</tbody>
</table>

For Flowing Only:
- COLOR: Clear
- TURBIDITY: None
- FLOATABLES: None

Other Concerns:
- Excess Trash (paper/plastic bags)
- Dumping (bulk)
- Excessive Sedimentation
- Needs Regular Maintenance
- Bank Erosion
- Other:

Potential Restoration Candidate:
- Discharge investigation
- Stream daylighting
- Local stream repair/outfall stabilization
- Storm water retrofit
- Other:

If yes for daylighting:
- Length of vegetative cover from outfall: ___ ft
- Type of existing vegetation: ___
- Slope: ___

If yes for stormwater:
- Is stormwater currently controlled? Yes [ ] No [ ] Not investigated [ ]
- Land Use description:

Outfall Severity:
- Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.
- Small discharge; flow mostly clear and odorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor/localized.

Outfall does not have dry weather discharge, staining, or appearance of causing any erosion problems.

Sketch/Notes:
- The outfall pipe is located near the top of a bedrock cliff, approx. 20' higher from surface of water. The water in time to assess (near bank/bull). Located approx. 40' from end to reach 9, NEP.

Reported to authorities: Yes [ ] No [ ]
**Stream Crossing**

**Watershed/Subshed:** NBP

**Survey Reach ID:** Creek 1

**Time:** 2:30 AM/PM

**Photo ID:** (Camera-Pic #)

**Site ID:** (Condition #) SC 24L

**Lat:** 41.47.54

**Long:** 72.47.46

**LMK:**

**GPS (Unit ID):**

**Type:**
- Road Crossing
- Railroad Crossing
- Manmade Dam
- Beaver Dam
- Geological Formation
- Other:

**Shape:**
- Arch
- Box
- Circular
- Elliptical
- Other:

**Bars:**
- Single
- Double
- Triple
- Other:

**Material:**
- Concrete
- Metal
- Other:

**Alignment:**
- Flow-aligned
- Not flow-aligned
- Do not know

**Dimensions:** (If variable, sketch)
- Barrel diameter: 30” (ft)
- Height: (ft)
- Culvert length: (ft)
- Width: (ft)
- Roadway elevation: (ft)

**Potential Restoration Candidate:**
- Fish barrier removal
- Culvert repair/replacement
- Upstream storage retrofit
- No
- Local stream repair
- Other:

**Is SC acting as Grade Control:**
- No
- Yes
- Unknown

**Extent of Physical Blockage:**
- Total
- Partial
- Temporary
- Unknown

**Cause:**
- Drop too high
- Water Drop: ___ (in)
- Flow too shallow
- Water Depth: ___ (in)
- Other:

**Blockage Severity:** (Circle #)
- A structure such as a dam or road culvert on a 3rd order or greater stream blocking the upstream movement of anadromous fish; no fish passage device present.
- A total fish blockage on a tributary that would isolate a significant reach of stream, or partial blockage that may interfere with the migration of anadromous fish.
- A temporary barrier such as a beaver dam or a blockage at the very head of a stream with very little viable fish habitat above it; natural barriers such as waterfalls.

**Notes/Sketch:**
- Downstream 8-10 year culvert is Reach 9 (NBP) 8 Long upstream is Reach 10. (Reach 9 side was narrowed.)
- Rip-Rap in the channel, velocity is high, and was directly downstream (F e 20') is clogged, riffle zone. Upstream (Reach 10) 10 year culvert is deeper, slower, and ponded.
- There is also a stormwater pipe (24" metal) here.
## Reach Level Assessment

**RCH**

<table>
<thead>
<tr>
<th>Survey Area ID:</th>
<th>10</th>
<th>Wtrshd/Subshd:</th>
<th>NBP</th>
<th>Date:</th>
<th>1/26/01</th>
<th>Assessed By:</th>
<th>D.G.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start Time:</td>
<td>1:45 AM</td>
<td>LMK:</td>
<td></td>
<td>End Time:</td>
<td>3:30 AM</td>
<td>LMK:</td>
<td></td>
</tr>
<tr>
<td>Lat: 41° 47' 40&quot;</td>
<td>Long: 72° 40' 37&quot;</td>
<td>Description: At Junction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lat: 41° 47' 54&quot;</td>
<td>Long: 72° 40' 40&quot;</td>
<td>Description: Road / Culvert</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Rain in Last 24 Hours
- ☑ Heavy rain
- ☑ Steady rain
- ☑ None
- Intermittent
- Trace
- Overcast

### Present Conditions
- ☑ Heavy rain
- ☑ Steady rain
- ☑ Intermittent
- ☑ Clear
- Trace
- Overcast
- Partly cloudy

### Surrounding Land Use
- ☑ Industrial
- ☑ Commercial
- ☑ Golf course
- ☑ Park
- ☑ Crop
- ☑ Pasture
- ☑ Other: W- Hayfield

### Average Conditions (check applicable)

<table>
<thead>
<tr>
<th>Base Flow as %</th>
<th>0-25%</th>
<th>25-50%</th>
<th>50%-75%</th>
<th>75-100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Channel Width</td>
<td></td>
<td>☑</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Dominant Substrate
- ☑ Silt/clay (fine or slick)
- ☑ Gravel (0.1-2.5"
- ☑ Cobble (2.5 -10"
- ☑ Boulder (>10"

### Water Clarity
- ☑ Clear
- ☑ Turbid (suspended matter)
- ☑ Stained (clear, naturally colored)
- ☑ Opaque (milky)
- ☑ Other (chemicals, dyes)

### Aquatic Plants in Stream
- Attached: ☑ none
- Floating: ☑ none

### Wildlife in or Around Stream
- ☑ Fish
- ☑ Beaver
- ☑ Deer
- ☑ Smalls
- Other: Eln. Ph. Mammals

### Stream Shading (water surface)
- ☑ Mostly shaded (>75% coverage)
- ☑ Halfway (50%)
- ☑ Partially shaded (25%)
- ☑ Unshaded (<25%)

### Channel Dynamics
- ☑ Downcutting
- ☑ Widening
- ☑ Headcutting
- ☑ Aggrading
- ☑ Sed. deposition
- ☑ Bed scour
- ☑ Bank failure
- ☑ Bank scour
- ☑ Slope failure
- ☑ Channelized

### Channel Dimensions (Facing Downstream)
- Height: LT bank
- Width: Bottom
- Top

### Reach Accessibility
- Good: Open area in public ownership, sufficient room to stockpile materials, easy stream channel access for heavy equipment using existing roads or trails.
- Fair: Forested or developed area adjacent to stream. Access requires tree removal or impact to landscaped areas. Stockpile areas small or distant from stream.
- Difficult: Must cross wetland, steep slope, or sensitive areas to get to stream. Few areas to stockpile available and/or located a great distance from stream. Specialized heavy equipment required.

### Notes
- (biggest problem you see in surveyed reach)

- Lot along right bank

*Reported to authorities* ☑ Yes ☑ No
<table>
<thead>
<tr>
<th>OVERALL STREAM CONDITION</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IN-STREAM HABITAT</strong></td>
<td>Greater than 70% of substrate favorable for epilithial colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).</td>
<td>40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).</td>
<td>20-40% of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.</td>
<td>Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.</td>
</tr>
<tr>
<td><strong>VEGETATIVE PROTECTION</strong></td>
<td>More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.</td>
<td>70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stable height remaining.</td>
<td>50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stable height remaining.</td>
<td>Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stable height.</td>
</tr>
<tr>
<td><strong>BANK EROSION</strong></td>
<td>Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. &lt;5% of bank affected.</td>
<td>Grade and width stable; isolated areas of bank failure/erosion likely caused by a pipe outfall, local scour, impaired riparian vegetation or adjacent use.</td>
<td>Past downcutting evident, active stream widening, banks actively eroding at a moderate rate; no threat to property or infrastructure.</td>
<td>Active downcutting; tall banks on both sides of the stream eroding at a fast rate; erosion contributing significant amount of sediment to stream; obvious threat to property or infrastructure.</td>
</tr>
<tr>
<td><strong>FLOODPLAIN CONNECTION</strong></td>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched.</td>
<td>High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OVERALL BUFFER AND FLOODPLAIN CONDITION</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VEGETATED BUFFER WIDTH</strong></td>
<td>Width of buffer zone &gt;50 feet; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, crops) have not impacted zone.</td>
<td>Width of buffer zone 25-50 feet; human activities have impacted zone only minimally.</td>
<td>Width of buffer zone 10-25 feet; human activities have impacted zone a great deal.</td>
<td>Width of buffer zone &lt;10 feet; little or no riparian vegetation due to human activities.</td>
</tr>
<tr>
<td>Left Bank</td>
<td>20 19 18 17</td>
<td>15 14 13 12 11</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1 0</td>
</tr>
<tr>
<td>Right Bank</td>
<td>20 19 18 17</td>
<td>15 14 13 12 11</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1 0</td>
</tr>
<tr>
<td><strong>FLOODPLAIN VEGETATION</strong></td>
<td>Predominant floodplain vegetation type is mature forest.</td>
<td>Predominant floodplain vegetation type is young forest.</td>
<td>Predominant floodplain vegetation type is shrub or old field.</td>
<td>Predominant floodplain vegetation type is turf or crop land.</td>
</tr>
<tr>
<td>20 19 18 17 16</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1 0</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>FLOODPLAIN HABITAT</strong></td>
<td>Even mix of wetland and non-wetland habitats, evidence of standing/ponded water.</td>
<td>Even mix of wetland and non-wetland habitats, no evidence of standing/ponded water.</td>
<td>Either all wetland or all non-wetland habitat, evidence of standing/ponded water.</td>
<td>Either all wetland or all non-wetland habitat, no evidence of standing/ponded water.</td>
</tr>
<tr>
<td>20 19 18 17 16</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1 0</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>FLOODPLAIN ENCROACHMENT</strong></td>
<td>No evidence of floodplain encroachment in the form of fill material, land development, or manmade structures.</td>
<td>Minor floodplain encroachment in the form of fill material, land development, or manmade structures, but not effecting floodplain function.</td>
<td>Moderate floodplain encroachment in the form of filling, land development, or manmade structures, some effect on floodplain function.</td>
<td>Significant floodplain encroachment (i.e., fill material, land development, or man-made structures). Significant effect on floodplain function.</td>
</tr>
<tr>
<td>20 19 18 17 16</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1 0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sub Total In-stream: Lp /80 + Buffer/Floodplain: Lp /80 = Total Survey Reach Lp /160
**Watershed/Subshed:** NB0  
**Date:** 1/23/04  
**Assessed By:** CMY  
**Survey Reach ID:** 10  
**Time:** __ AM/PM  
**Photo ID:** (Camera-Pic #) # F8230020  
**Site ID:** (Condition #) UT  
**Lat:** 41° 47' 53"  
**Long:** 72° 40' 44"  
**LMK:**  
**GPS:** (Unit ID)  

<table>
<thead>
<tr>
<th>Type:</th>
<th>Material:</th>
<th>Location:</th>
<th>Potential Fish Barrier:</th>
<th>Pipe Dimensions:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leaking sewer</td>
<td>Concrete</td>
<td>Floodplain</td>
<td>Yes</td>
<td>Diameter: ___ in</td>
</tr>
<tr>
<td>Exposed pipe</td>
<td>Corrugated metal</td>
<td>Stream bank</td>
<td>No</td>
<td>Length exposed: ___ ft</td>
</tr>
<tr>
<td>Exposed manhole</td>
<td>Smooth metal</td>
<td>Above stream</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>PVC</td>
<td>Stream bottom</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>Other</td>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Condition:</th>
<th>Evidence of Discharge:</th>
<th>Potential Restoration Candidate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joint failure</td>
<td>Color</td>
<td>None</td>
</tr>
<tr>
<td>Protective covering broken</td>
<td>Odor</td>
<td>None</td>
</tr>
<tr>
<td>Manhole cover absent</td>
<td>Deposits</td>
<td>None</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If yes to fish barrier, Water Drop: ___ (in)  

**Utility Impact Severity:** (Circle #)  
Leaking: 5

---

**Notes:** Not critical but worth noting. Located downstream to 8"-by-8" culvert which marks the break between reaches 9+10 and 10+0 (NB0). Located under powerlines (landmark).  

**Reported to Local Authorities:** Yes | No
**Severe Bank Erosion**

**Watershed/Subshed:** NBP

**Survey Reach:** 0

**Time:** ___AM/PM

**Photo ID (Camera-Pic #):** # 22320023

**Site ID:** (Condition #)

**Start Lat/Long:** 41° 47' 41" / 72° 42' 37"

**End Lat/Long:** ___ / ___

**GPS:** (Unit ID) 22320023

**Process:**
- [X] Currently unknown
- [ ] Downcutting
- [ ] Widening
- [ ] Headcutting
- [ ] Aggrading
- [ ] Sed. deposition

**Bank of Concern:**
- [X] LT
- [ ] RT
- [ ] Both (looking downstream)

**Location:**
- [X] Meander bend
- [ ] Straight section
- [ ] Steep slope/valley wall
- [ ] Other

**Dimensions:**
- **Length (if no GPS):** LT ___ ft and/or RT ___ ft
- **Bottom width:** ___ ft
- **Bank Ht:** LT ___ ft and/or RT ___ ft
- **Top width:** ___ ft
- **Bank Angle:** LT ___ ° and/or RT ___ °
- **Wetted Width:** ___ ft

**Land Ownership:**
- [ ] Private
- [ ] Public
- [X] Unknown

**Land Cover:**
- [X] Forest
- [ ] Field/Ag
- [ ] Developed

**Potential Restoration Candidate:**
- [X] Grade control
- [ ] Bank stabilization
- [ ] Other

**Threat to Property/Infrastructure:**
- [X] No
- [ ] Yes (Describe):

**Existing Riparian Width:**
- [ ] < 25 ft
- [ ] 25 - 50 ft
- [ ] 50 - 75 ft
- [X] 75 - 100 ft
- [ ] > 100 ft

**Erosion Severity (circle #):**
- [X] Channelized = 1

**Access:**
- **Good access:** Open area in public ownership, sufficient room to stockpile materials, easy stream channel access for heavy equipment using existing roads or trails.
- **Fair access:** Forested or developed area adjacent to stream. Access requires tree removal or impact to landscaped areas. Stockpile areas small or distant from stream.
- **Difficult access:** Must cross wetland, steep slope or other sensitive areas to access stream. Minimal stockpile areas available and/or located a great distance from stream section. Specialized heavy equipment required.

**Notes/Cross Section Sketch:**
- [ ] Bend in stream

**Reported to Authorities:**
- [X] Yes
- [ ] No
**Impacted Buffer**

**Watershed/Subshed:** N81

**Survey Reach:** 10

**Date:** 11/23/09

**Assessed By:** EM/ES

**Photo ID:** (Camera-Pic #) 9/2009 #27

**Site ID:** (Condition #)

**Start Lat:** 41° 42' 48" **Long:** 72° 42' 48" **LMK:**

**End Lat:** 41° 42' 48" **Long:** 72° 42' 48" **LMK:**

**GPS:** (Unit ID)

**Impacted Bank:**
- [ ] LT
- [ ] RT
- [ ] Both

**Reason Inadequate:**
- [x] Lack of vegetation
- [ ] Too narrow
- [ ] Widespread invasive plants
- [ ] Recently planted
- [ ] Other: Parking lot, concrete + other debris

**Land Use:**
- Private
- Institutional
- Golf Course
- Park
- Other: [ ]

**Dominant Land Cover:**
- Paved
- Bare ground
- Turf/lawn
- Tall grass
- Shrub/scrub
- Trees
- Other: [ ]

**Invasive Plants:**
- [ ] None
- [x] Rare
- [ ] Partial coverage
- [ ] Extensive coverage
- [ ] Unknown

**Stream Shade Provided?**
- [ ] None
- [ ] Partial
- [ ] Full

**Wetlands Present?**
- [ ] No
- [ ] Yes
- [ ] Unknown

**Potential Restoration Candidate**
- [ ] Active reforestation
- [ ] Greenway design
- [ ] Natural regeneration
- [ ] Invasives removal
- [ ] No
- [ ] Other:

**Restorable Area**

<table>
<thead>
<tr>
<th>LT Bank</th>
<th>RT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length (ft):</td>
<td></td>
</tr>
<tr>
<td>Width (ft):</td>
<td></td>
</tr>
</tbody>
</table>

**Reforestation Potential:**

<table>
<thead>
<tr>
<th>LT Bank</th>
<th>RT</th>
</tr>
</thead>
</table>

**Impacted area on public land where the riparian area does not appear to be used for any specific purpose; plenty of area available for planting**

**Impacted area on either public or private land that is presently used for a specific purpose; available area for planting adequate**

**Impacted area on private land where road; building encroachment or other feature significantly limits available area for planting**

**Potential Conflicts with Reforestation**

- [ ] Widespread invasive plants
- [ ] Potential contamination
- [ ] Lack of sun
- [ ] Poor/unsafe access to site
- [ ] Existing impervious cover
- [ ] Severe animal impacts (deer, beaver)
- [ ] Other:

**Notes:**

Rip-rap, clumps of concrete, exposed concrete, parking lot, and lawn
Storm Water Outfalls

**Watershed/Subshed:** NE

**Survey Reach ID:** 10

**Time:** __ : __ AM/PM

**Photo ID: (Camera-Pic #)** # P03007

**Site ID (Condition):** OT-A

**Lat:** 41° 47' 49"
**Long:** 82° 42' 43"

**Lmk:**

**Bank:**
- [ ] Lt Art Head
- [ ] Rt Head

**Flow:**
- [ ] None
- [ ] Trickle
- [ ] Moderate
- [ ] Substantial
- [ ] Other:

**Condition:**
- [ ] None
- [ ] Chip/Cracked
- [ ] Peeling Paint
- [ ] Corrosion
- [ ] Other:

**Type:**
- [ ] Closed Pipe

**Material:**
- [ ] Concrete
- [ ] Metal
- [ ] PVC/Plastic
- [ ] Brick
- [ ] Other:

**Shape:**
- [ ] Single
- [ ] Circular
- [ ] Double
- [ ] Elliptical
- [ ] Triplet
- [ ] Other:

**Dimensions:**
- Diameter: __/4 (in)

**Submerged:**
- [ ] No
- [ ] Partially
- [ ] Fully

**Condition:**
- [ ] None
- [ ] Chip/Cracked
- [ ] Peeling Paint
- [ ] Corrosion
- [ ] Other:

**Odor:**
- [ ] No Gas
- [ ] Sewage
- [ ] Rancid/Sour
- [ ] Sulfide
- [ ] Other:

**Deposits/Stains:**
- [ ] None
- [ ] Oily
- [ ] Flow Line
- [ ] Paint
- [ ] Other:

**Veggie Density:**
- [ ] None
- [ ] Normal
- [ ] Inhibited
- [ ] Excessive
- [ ] Other:

**Pipe Benthic Growth:**
- [ ] None
- [ ] Brown
- [ ] Orange
- [ ] Green
- [ ] Other:

**Pool Quality:**
- [ ] No pool
- [ ] Good
- [ ] Odors
- [ ] Colors
- [ ] Oils
- [ ] Algae
- [ ] Floatables
- [ ] Other:

**For Flowing Only:**
**Color:**
- [ ] Clear
- [ ] Brown
- [ ] Grey
- [ ] Yellow
- [ ] Green
- [ ] Orange
- [ ] Red
- [ ] Other:

**Turbidity:**
- [ ] None
- [ ] Slight Cloudiness
- [ ] Cloudy
- [ ] Opaque

**Floatables:**
- [ ] None
- [ ] Sewage (toilet paper, etc.)
- [ ] Petroleum (oil sheen)
- [ ] Other:

**Other Concerns:**
- [ ] Excess Trash (paper/plastic bags)
- [ ] Dumping (bulk)
- [ ] Excessive Sedimentation
- [ ] Needs Regular Maintenance
- [ ] Bank Erosion
- [ ] Other:

**Potential Restoration Candidate**
- [ ] Discharge investigation
- [ ] Stream daylighting
- [ ] Local stream repair/outfall stabilization
- [ ] Storm water retrofit
- [ ] Other:

*If yes for daylighting:
- Length of vegetative cover from outfall: _____ ft
- Type of existing vegetation: __________
- Slope: ________°

*If yes for stormwater:
- Is stormwater currently controlled?
  - [ ] Yes
  - [ ] No
  - [ ] Not investigated

**Land Use Description:**

**Outfall Severity:**
(circle #)
- Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.
- Small discharge; flow mostly clear and odorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor/localized.
- Outfall does not have dry weather discharge; staining; or appearance of causing any erosion problems.

**Sketch/Notes:**

**Reported to Authorities:**
- [ ] Yes
- [ ] No
**Watershed/Subshed:** NBP

**Survey Reach ID:** 0

**Time:** __:__ AM/PM

**Photo ID:** (Camera Pic #: # P6250028)

**Site ID (Condition #):** OT-

**Lat:** 41° 47.47' **Long:** 32° 42.68'

**Assessed By:** CMW/LEG

**GPS:** (Unit ID)

**Bank:**
- LT ART

**Flow:**
- None
- Trickle
- Moderate
- Substantial
- Other

**Type:**
- Closed pipe
- Other

**Material:**
- Concrete
- Metal
- PVC/Plastic
- Brick
- Other

**Shape:**
- Circular
- Double
- Elliptical
- Triple
- Other

**Dimensions:**
- Diameter: 30”

**Submerged:**
- No
- Partially
- Fully

**Condition:**
- None
- Chip/Cracked
- Peeling Paint
- Corrosion
- Other

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

**Deposits/Stains:**
- None
- Oily
- Flow Line
- Paint
- Other

**Veggie Density:**
- None
- Normal
- Inhibited
- Excessive
- Other

**Pipe Benthic Growth:**
- None
- Brown
- Orange
- Green
- Other

**Pool Quality:**
- No pool
- Good
- Odors
- Colors
- Oils
- Suds
- Algae
- Floatables
- Other

**For Flowing Only**

**Color:**
- Clear
- Brown
- Grey
- Yellow
- Green
- Orange
- Red
- Other

**Turbidity:**
- None
- Slight Cloudiness
- Cloudy
- Opaque

**Floatables:**
- None
- Sewage (toilet paper, etc.)
- Petroleum (oil sheen)
- Other

**Other Concerns:**
- Excess Trash (paper/plastic bags)
- Dumping (bulk)
- Excessive Sedimentation
- Needs Regular Maintenance
- Bank Erosion
- Other

**Potential Restoration Candidate:**
- Discharge investigation
- Stream daylighting
- Local stream repair/outfall stabilization
- Storm water retrofit
- Other

*If yes for daylighting:*

Length of vegetative cover from outfall: _____ ft

Type of existing vegetation: ____________

Slope: _____°

*If yes for stormwater:*

Is stormwater currently controlled?
- Yes
- No
- Not investigated

Land Use description: ____________________________

Area available: ________________________________

**Outfall Severity:**

- Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.
- Small discharge: flow mostly clear and odorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor/localized.
- Outfall does not have dry weather discharge, staining, or appearance of causing any erosion problems.

**Sketch/Notes:** Headwall + outflow pipe located 10 ft back from Channel

**Reported to Authorities:** Yes No
**Reach Level Assessment**

**SURVEY REACH ID:** [1]  
**WTRSHD/SUBSHD:** NB-P  
**DATE:** 1/23/07  
**ASSESSED BY:** CMM176  

**START**  
**TIME:** 9:00 AM  
**LMK:** RR  
**LAT:** 41° 47' 51"  
**LONG:** 72° 42' 30"  
**DESCRIPTION:** RR - TRAX

**END**  
**TIME:** 4:00 AM  
**LMK:** TVK  
**LAT:** 41° 47' 40"  
**LONG:** 72° 42' 37"  
**DESCRIPTION:** TVK joins MAIN STEM

**RAIN IN LAST 24 HOURS**  
- Heavy rain  
- Steady rain  
- None  
- Intermittent  
- Trace  
- Overcast  
- Partly cloudy

**SURROUNDING LAND USE**  
- Industrial  
- Commercial  
- Golf course  
- Park  
- Urban/Residential  
- Suburban/Res  
- Forested  
- Institutional  
- Other:

**AVERAGE CONDITIONS (check applicable)**  
- Base Flow as %:  
  - 0-25%  
  - 25-50%  
  - 50-75%  
  - 75-100%

- Channel Width:  
  - 0-25%  
  - 25-50%  
  - 50-75%  
  - 75-100%

**DOMINANT SUBSTRATE**  
- Silt/clay (fine or slick)  
- Sand (gritty)  
- Gravel (0.1-2.5")  
- Cobble (2.5-10")  
- Boulder (>10")  
- Bed rock

**WATER CLARITY**  
- Clear  
- Turbid (suspended matter)  
- Stained (clear, naturally colored)  
- Opaque (milky)  
- Other (chemicals, dyes)

**AQUATIC PLANTS IN STREAM**  
- Attached: none  
- Some  
- Lots

**WILDLIFE IN OR AROUND STREAM**  
- Evidence of:  
  - Fish  
  - Beaver  
  - Deer  
  - Snails  
  - Other:

**STREAM SHADING (water surface)**  
- Mostly shaded (≥75% coverage)  
- Halfway (≥50%)  
- Partially shaded (≥25%)  
- Unshaded (<25%)

**CHANNEL DYNAMICS**  
- Downcutting  
- Widening  
- Headcutting  
- Aggrading  
- Sed. deposition  
- Channelized

**BED SCOUR**  
- Bank failure

**CHANNEL HEIGHT**  
- Width:
  - Top  
  - Bottom  

**REACH ACCESSIBILITY**  
- Fair: Forested or developed area adjacent to stream. Access requires tree removal or impact to landscaped areas. Stockpile areas small or distant from stream.

- Difficult: Must cross wetland, steep slope, or sensitive areas to get to stream. Few areas to stockpile available and/or located a great distance from stream. Specialized heavy equipment required.

**REACH SKETCH AND SITE IMPACT TRACKING**  
Simple plan view sketch of survey reach. Track locations and IDs for all site impacts within the survey reach (OT, ER, IB, SC, UT, TR, MI) as well as any additional features deemed appropriate. Indicate direction of flow.

---

**NOTES:** (biggest problem you see in survey reach)

- Dumping, flashy flow, invasive plants, sediment load.

**REPORTED TO AUTHORITIES**  
- [ ] Yes  
- [ ] No
## Overall Stream Condition

<table>
<thead>
<tr>
<th></th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>In-stream Habitat</strong></td>
<td>Greater than 70% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).</td>
<td>40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrates in the form of cobbles, but not yet prepared for colonization (may rate at high end of scale).</td>
<td>20-40% mix of stable habitat; habitat availability less than desirable; substrates frequently disturbed or removed.</td>
<td>Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or boggy.</td>
</tr>
<tr>
<td></td>
<td>20 19 18 17 16</td>
<td>15 14 13 12 11</td>
<td>10 9 8 7 6</td>
<td>3 4 3 2 1 0</td>
</tr>
<tr>
<td><strong>Vegetation Protection</strong></td>
<td>More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.</td>
<td>70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.</td>
<td>50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or newly planted vegetation common; less than one-half of the potential plant stubble height remaining.</td>
<td>Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been reduced to 5 centimeters or less in average stubble height.</td>
</tr>
<tr>
<td></td>
<td>Left Bank 10 9</td>
<td>Right Bank 10 9</td>
<td>5 4 3</td>
<td>2 1 0</td>
</tr>
<tr>
<td><strong>Bank Erosion</strong></td>
<td>Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems.</td>
<td>Grade and width; stable; isolated areas of bank failure/erosion; likely caused by a pipe outfall, local scour, impaired riparian vegetation or adjacent use.</td>
<td>Past downcutting evident, active stream widening, banks actively eroding at a moderate rate; no threat to property or infrastructure.</td>
<td>Active downcutting; tail banks on both sides of the stream exceeding at a fast rate; erosion contributing significant amount of sediment to stream; obvious threat to property or infrastructure.</td>
</tr>
<tr>
<td>(facing downstream)</td>
<td>Left Bank 10 9</td>
<td>Right Bank 10 9</td>
<td>5 4 3</td>
<td>2 1 0</td>
</tr>
<tr>
<td><strong>Floodplain Connection</strong></td>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched.</td>
<td>High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched.</td>
</tr>
<tr>
<td></td>
<td>20 19 18 17 16</td>
<td>15 14 13 12 11</td>
<td>(10) 9 8 7 6</td>
<td>5 4 3 2 1 0</td>
</tr>
</tbody>
</table>

## Overall Buffer and Floodplain Condition

<table>
<thead>
<tr>
<th></th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vegetated Buffer Width</strong></td>
<td>Width of buffer zone &gt;50 feet; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, crops) have not impacted zone.</td>
<td>Width of buffer zone 25-50 feet; human activities have impacted zone only minimally.</td>
<td>Width of buffer zone 10-25 feet; human activities have impacted zone a great deal.</td>
<td>Width of buffer zone &lt;10 feet; little or no riparian vegetation due to human activities.</td>
</tr>
<tr>
<td></td>
<td>Left Bank 10 9</td>
<td>Right Bank 10 9</td>
<td>5 4 3</td>
<td>2 1 0</td>
</tr>
<tr>
<td><strong>Floodplain Vegetation</strong></td>
<td>Predominant floodplain vegetation type is mature forest.</td>
<td>Predominant floodplain vegetation type is young forest.</td>
<td>Predominant floodplain vegetation type is shrub or old field.</td>
<td>Predominant floodplain vegetation type is turf or crop land.</td>
</tr>
<tr>
<td></td>
<td>20 19 18 17 16</td>
<td>15 14 (12) 11</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1 0</td>
</tr>
<tr>
<td><strong>Floodplain Habitat</strong></td>
<td>Even mix of wetland and non-wetland habitats, evidence of standing/ponded water.</td>
<td>Even mix of wetland and non-wetland habitats, no evidence of standing/ponded water.</td>
<td>Either all wetland or all non-wetland habitat, evidence of standing/ponded water.</td>
<td>Either all wetland or all non-wetland habitat, no evidence of standing/ponded water.</td>
</tr>
<tr>
<td></td>
<td>20 19 18 17 16</td>
<td>15 14 (12) 11</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1 0</td>
</tr>
<tr>
<td><strong>Floodplain Encroachment</strong></td>
<td>No evidence of floodplain encroachment in the form of fill material, land development, or manmade structures.</td>
<td>Minor floodplain encroachment in the form of fill material, land development, or manmade structures, but not affecting floodplain function.</td>
<td>Moderate floodplain encroachment in the form of fill material, land development, or manmade structures, some effect on floodplain function.</td>
<td>Significant floodplain encroachment (i.e., fill material, land development, or man-made structures). Significant effect on floodplain function.</td>
</tr>
<tr>
<td></td>
<td>20 19 18 17 16</td>
<td>15 14 (12) 11</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1 0</td>
</tr>
</tbody>
</table>

Sub Total In-stream: 29/80 + Buffer/Floodplain: 49/80 = Total Survey Reach 49/160
**WATERSHED/SUBSHED:** N6P  
**DATE:** 11/22/07  
**ASSESSED BY:** cm 1/6

**SURVEY REACH ID:** 11  
**TIME:** AM/PM  
**PHOTO ID:** Camera-Pic #P30300/10

**SITE ID:** (Condition #: TR - A)  
**LAT:** 41° 47.50'  
**LONG:** 72° 42.30'  
**LMK:**

<table>
<thead>
<tr>
<th>TYPE:</th>
<th>Industrial</th>
<th>Commercial</th>
<th>Residential</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATERIAL:</td>
<td>Plastic</td>
<td>Tires</td>
<td>Appliances</td>
</tr>
<tr>
<td>SOURCE:</td>
<td>Unknown</td>
<td>Construction</td>
<td>Medical</td>
</tr>
<tr>
<td>LOCATION:</td>
<td>Stream</td>
<td>Riparian Area</td>
<td>Local outfall</td>
</tr>
<tr>
<td>LAND OWNERSHIP:</td>
<td>Public</td>
<td>Unknown</td>
<td>Private</td>
</tr>
<tr>
<td>AMOUNT (# Pickup truck loads):</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**POTENTIAL RESTORATION CANDIDATE**: Stream cleanup, Stream adoption segment, Removal/prevention of dumping

**EQUIPMENT NEEDED**: Heavy equipment, Trash bags, Unknown

**WHO CAN DO IT**: Volunteers, Local Gov, Hazmat Team, Other

**CLEAN-UP POTENTIAL**: (Circle #:)
- A small amount of trash (i.e., less than two pickup truck loads) located inside a park with easy access
- A large amount of trash, or bulk items, in a small area with easy access. Trash may have been dumped over a long period of time but it could be cleaned up in a few days, possibly with a small backhoe.
- A large amount of trash or debris scattered over a large area, where access is very difficult. Presence of drums or indicators of hazardous materials

**NOTES:** Debris includes sleeping carts, crates, tires, railroad ties, plastic bottles, broken glass, etc.

**REPORTED TO AUTHORITIES**: Yes, No
Trash and Debris

**WATERSHED/SUBSHED:** NEP

**DATE:** 11/23/09  
**ASSESSED BY:** cm/BSG

**SURVEY REACH ID:** 11  
**TIME:** _ AM/PM  
**PHOTO ID:** (Camera-Pic #) _

**SITE ID:** (Condition #) TR-B  
**LAT:** 41°47’.40”  
**LONG:** 82°48’.37”  
**LMK:**  
**GPS:** (Unit ID)

**TYPE:**  
- [ ] Industrial  
- [ ] Commercial  
- [x] Residential

**MATERIAL:**  
- [ ] Plastic  
- [x] Tires  
- [x] Appliances  
- [ ] Automotive  
- Other: CREAKS

**SOURCE:**  
- [ ] Unknown  
- [x] Flooding  
- [ ] Illegal dump  
- [ ] Local outfall

**LOCATION:**  
- [x] Stream  
- [ ] Riparian Area  
- [ ] Lt bank  
- [ ] Rt bank

**LAND OWNERSHIP:**  
- [ ] Public  
- [ ] Unknown  
- [ ] Private

**AMOUNT (# Pickup truck loads):**

**POTENTIAL RESTORATION CANDIDATE**  
- [x] Stream cleanup  
- [x] Stream adoption segment  
- [ ] Removal/prevention of dumping

**If yes for trash or debris removal**  
- [ ] yes  
- [ ] no

**EQUIPMENT NEEDED:**  
- [ ] Heavy equipment  
- [ ] Trash bags  
- [ ] Unknown

**WHO CAN DO IT:**  
- [x] Volunteers  
- [ ] Local Gov  
- [ ] Hazmat Team  
- [ ] Other

**CLEAN-UP POTENTIAL:**  
(Circle #)

<table>
<thead>
<tr>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>A small amount of trash (i.e., less than two pickup truck loads) located inside a park with easy access</td>
<td>A large amount of trash, or bulk items, in a small area with easy access. Trash may have been dumped over a long period of time but it could be cleaned up in a few days, possibly with a small backhoe.</td>
<td>A large amount of trash or debris scattered over a large area, where access is very difficult. Or presence of drums or indications of hazardous materials</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:** plastic bottles + plastic crates have piled up against a fallen tree. this has been dumped/flooded + settled here. indicates overall litter problem + worth noting.

**REPORTED TO AUTHORITIES**  
- [ ] YES  
- [ ] NO
Stream Crossing

WATERSHED/SUBSHED: NBP
DATE: 11/26/97
SURVEY REACH ID: 11
TIME: 1200 AM/PM
PHOTO ID: (Camera-Pic #) 05300 #13 + 14

SITE ID: (Condition #) SC A LAT 41° 47.51' LONG 120° 42.30' LMK

Type: [ ] Road Crossing [ ] Railroad Crossing [ ] Manmade Dam [ ] Beaver Dam [ ] Geological Formation [ ] Other

Shape: [x] Arch [ ] Bottomless [ ] Box [ ] Elliptical [ ] Circular [ ] Other:

# Barrels: [x] Single [ ] Double [ ] Triple [ ] Other:

Material: [x] Concrete [ ] Flow-aligned [ ] Not flow-aligned [ ] Do not know

Alignment: [ ] Flow-aligned [ ] Not flow-aligned [ ] Do not know

Dimensions: (if variable, sketch)
Barrel diameter: [ ] (ft)
Height: [ ] (ft)
Culvert length: [ ] (ft)
Width: [ ] (ft)
Roadway elevation: [ ] (ft)

Potential Restoration Candidate: [ ] Fish barrier removal [ ] Culvert repair/replacement [ ] Upstream storage retrofit

Is SC acting as grade control: [ ] No [ ] Yes [ ] Unknown

Extent of Physical Blockage:
[ ] Total [ ] Partial
[ ] Temporary [ ] Unknown

Cause:
[ ] Drop too high Water Drop: ____ (in)
[ ] Flow too shallow Water Depth: ____ (in)
[ ] Other:

Blockage Severity: (circle #)
A structure such as a dam or road culvert on a 3rd order or greater stream blocking the upstream movement of anadromous fish; no fish passage device present.
A total fish blockage on a tributary that would isolate a significant reach of stream, or partial blockage that may interfere with the migration of anadromous fish.
A temporary barrier such as a beaver dam or a blockage at the very head of a stream with very little viable fish habitat above it; natural barriers such as waterfalls.

5 4 3 2 1

Notes/Sketch: upstream of RR crossing there is concrete lining the left bank (see photo B) - but this is not part of reach. 

Reported to Authorities: [ ] Yes [ ] No
**Stream Crossing**

**Watershed/Subshed:** NE

**Survey Reach ID:** 11

**Site ID:** Condition: SC - 15

**Lat:** 41° 47’ 41” Long: 72° 40’ 32” LMK____

**Date:** 1/23/09

**Time:** AM/PM

**Photo ID:** (Camera: Pic #) 28300 # 18 + 19

**Assessed By:** 09/18

---

**Type:**
- Road Crossing
- Railroad Crossing
- Manmade Dam
- Beaver Dam
- Geological Formation
- Other:

**Shape:**
- Arch
- Box
- Circular
- Elliptical
- Bottomless
- Other:

**# Barrels:**
- Single
- Double
- Triple
- Other:

**Material:**
- Concrete
- Metal
- Other:

**Alignment:**
- Flow-aligned
- Not flow-aligned
- Do not know

**Dimensions:** (if variable, sketch)
- Barrel diameter: \( \frac{12}{2} \) (ft)
- Height: \( \frac{3}{2} \) (ft)
- Culvert length: ________ (ft)
- Width: ________ (ft)
- Roadway elevation: ________ (ft)

---

**Potential Restoration Candidate:**
- Fish barrier removal
- Culvert repair/replacement
- Upstream storage retrofit
- no
- Local stream repair
- Other:

**Is SC acting as grade control:**
- No
- Yes
- Unknown

---

**Extent of Physical Blockage:**
- Total
- Partial
- Temporary
- Unknown

**If yes for fish barrier**
- Cause:
  - Drop too high: Water Drop: _______ (in)
  - Flow too shallow: Water Depth: _______ (in)
  - Other:

**Blockage Severity:** (Circle #)
- A structure such as a dam or road culvert on a 3rd order or greater stream blocking the upstream movement of anadromous fish; no fish passage device present.
- A total fish blockage on a tributary that would isolate a significant reach of stream, or partial blockage that may interfere with the migration of anadromous fish.
- A temporary barrier such as a beaver dam or a blockage at the very head of a stream with very little viable fish habitat above it; natural barriers such as waterfalls.

---

**Notes/Sketch:**

Upstream of culvert the water is deeper than downstream, this shouldn’t impact fish— but would not be an Acceptable passage for turtles given the low light penetration (you can’t see the light at the end of the tunnel, so to speak).
**Survey Reach ID:** NBP-IS  
**WTRSH/Subshd:** NBP  
**Date:** 11/24/09  
**Assessed by:** RC+CM

**Start Time:** 12:30 AM  
**Lmk:**  
**End Time:** 1:05 AM  
**Lmk:**  
**Description:** Potential Vernal Pool (Photo 071)

**Rain in Last 24 Hours:**  
- Heavy rain  
- Steady rain

**Present Conditions:**  
- Heavy rain  
- Steady rain  
- Intermittent

**Surrounding Land Use:**  
- Industrial  
- Commercial  
- Urban/Residential  
- Suburban/Res  
- Forested  
- Institutional  
- Golf course  
- Park  
- Crop  
- Pasture  
- Other

**Average Conditions (check applicable):**

<table>
<thead>
<tr>
<th>Base Flow as %</th>
<th>Channel Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-25%</td>
<td>25-50%</td>
</tr>
<tr>
<td>50%-75%</td>
<td>75-100%</td>
</tr>
</tbody>
</table>

**Dominant Substrate:**  
- Silt/clay (fine or slick)  
- Sand (gritty)  
- Gravel (0.1-2.5")

**Water Clarity:**  
- Clear  
- Turbid (suspended matter)

**Aquatic Plants in Stream:**

- Attached: none  
- Some  
- Lots

**Wildlife in or Around Stream:**

- Fish  
- Beaver  
- Deer  
- Snails  
- Other

**Stream Shading (water surface):**  
- Mostly shaded (>75% coverage)

**Channel Dynamics:**  
- Downcutting  
- Widening  
- Headcutting  
- Aggrading  
- Sed. deposition  
- Bed scour  
- Bank failure

**Channel Dimensions:**

<table>
<thead>
<tr>
<th>Facing Downstream</th>
<th>Width</th>
<th>Bottom</th>
</tr>
</thead>
<tbody>
<tr>
<td>LT bank</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RT bank</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Reach Accessibility:**

- Good: Open area in public ownership, sufficient room to stockpile materials, easy stream channel access for heavy equipment using existing roads or trails.
- Fair: Forested or developed area adjacent to stream. Access requires tree removal or impact to landscaped areas. Stockpile areas small or distant from stream.
- Difficult: Must cross wetland, steep slope, or sensitive areas to get to stream. Few areas to stockpile available and/or located a great distance from stream. Specialized heavy equipment required.

**Notes:** (biggest problem you see in survey reach)

- Debris, parking lot adjacent to nearly 1/2 of right bank to this reach, stormwater outfall pipes in need of repair.

**Reported to authorities:**  
- Yes  
- No
### Overall Stream Condition

<table>
<thead>
<tr>
<th>In-stream Habitat</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greater than 70% of substrate favorable for epilithal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new, old or not transient).</td>
<td>20 19 18 17 16 (15)</td>
<td>14 13 12 11</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1 0</td>
</tr>
<tr>
<td>Vegetative Protection</td>
<td>More than 50% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.</td>
<td>Left Bank</td>
<td>Right Bank</td>
<td>8 7 6</td>
</tr>
<tr>
<td>Bank Erosion (facing downstream)</td>
<td>Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems.</td>
<td>Left Bank</td>
<td>Right Bank</td>
<td>8 7 6</td>
</tr>
<tr>
<td>Floodplain Connection</td>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>Left Bank</td>
<td>Right Bank</td>
<td>5 4 3</td>
</tr>
</tbody>
</table>

### Overall Buffer and Floodplain Condition

<table>
<thead>
<tr>
<th>Vegetated Buffer Width</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width of buffer zone &gt;50 feet; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, crops) have not impacted zone.</td>
<td>Left Bank</td>
<td>Right Bank</td>
<td>8 7 6</td>
<td>8 7 6</td>
</tr>
<tr>
<td>Floodplain Vegetation</td>
<td>Predominant floodplain vegetation type is mature forest</td>
<td>Left Bank</td>
<td>Right Bank</td>
<td>8 7 6</td>
</tr>
<tr>
<td>Floodplain Habitat</td>
<td>Even mix of wetland and non-wetland habitats, evidence of standing/ponded water</td>
<td>Left Bank</td>
<td>8 7 6</td>
<td>8 7 6</td>
</tr>
<tr>
<td>Floodplain Encroachment</td>
<td>No evidence of floodplain encroachment in the form of fill material, land development, or manmade structures.</td>
<td>Left Bank</td>
<td>8 7 6</td>
<td>8 7 6</td>
</tr>
</tbody>
</table>

Sub Total In-stream: 68 / 80 + Buffer/Floodplain: 64 / 80 = Total Survey Reach 132 / 160
Storm Water Outfalls

<table>
<thead>
<tr>
<th>BANK:</th>
<th>FLOW:</th>
</tr>
</thead>
<tbody>
<tr>
<td>LT ART Head</td>
<td>None Trickle</td>
</tr>
<tr>
<td>Closed pipe</td>
<td>Open channel</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TYPE:</th>
<th>MATERIAL:</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Yes</td>
<td>Concrete Metal</td>
</tr>
<tr>
<td>□ No</td>
<td>PVC/Plastic Brick</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SHAPE:</th>
<th>DIMENSIONS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Single</td>
<td>Diameter: ___ (in)</td>
</tr>
<tr>
<td>□ Circular</td>
<td>Diameter: ___ (in)</td>
</tr>
<tr>
<td>□ Double</td>
<td>Diameter: ___ (in)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CONDITION:</th>
<th>ODOR:</th>
<th>DEPOSITS/STAINS:</th>
<th>VEGGIE DENSITY:</th>
<th>PIPE BENTHIC GROWTH:</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ None</td>
<td>□ Gas</td>
<td>□ None Paint</td>
<td>□ None Normal</td>
<td>□ None</td>
</tr>
<tr>
<td>□ Chip/Cracked</td>
<td>□ Sewage Rancid/Sour</td>
<td>□ Flow Line</td>
<td>□ Inhibited Excessive</td>
<td>□ Brown Orange Green</td>
</tr>
<tr>
<td>□ Peeling Paint</td>
<td>□ Sulfide</td>
<td>Paint Other:</td>
<td>□ Excessive Other:</td>
<td>□ Other:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FOR flowing only</th>
<th>COLOR:</th>
<th>TURBIDITY:</th>
<th>FLOATABLES:</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Clear Brown Grey Yellow Green Orange Red Other:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ None</td>
<td>Slight Cloudiness</td>
<td>Sewage (toilet paper, etc.)</td>
<td>Petroleum (oil sheen)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OTHER CONCERNS:</th>
<th>POTENTIAL RESTORATION CANDIDATE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Excess Trash (paper/plastic bags)</td>
<td>□ Discharge investigation</td>
</tr>
<tr>
<td>□ Dumping (bulk)</td>
<td>□ Storm water retrofit</td>
</tr>
<tr>
<td>□ Excessive Sedimentation</td>
<td>Other:</td>
</tr>
<tr>
<td>□ Needs Regular Maintenance</td>
<td>Local stream repair/oufall stabilization</td>
</tr>
<tr>
<td>□ Bank Erosion</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OUTFALL SEVERITY:</th>
<th>SKETCH/NOTES:</th>
</tr>
</thead>
<tbody>
<tr>
<td>(circle #)</td>
<td>Not clear whether oufall water can reach the river except through seepage or extreme overflow</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.</td>
<td>Small discharge; flow mostly clear and odorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor/localized.</td>
<td>Outfall does not have dry weather discharge; staining; or appearance of causing any erosion problems.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

REPORTED TO AUTHORITIES: □ YES □ NO
### Storm Water Outfalls

**WATERSHED/SUBSHED:** NBP  
**SURVEY REACH ID:** 13  
**SITE ID:** OT  
**DATE:** 11/24/09  
**ASSESSED BY:** CM  
**PHOTO ID:** none

<table>
<thead>
<tr>
<th>BANK</th>
<th>TYPE</th>
<th>MATERIAL</th>
<th>SHAPE</th>
<th>DIMENSIONS</th>
<th>SUBMERGED</th>
<th>GPS: (Unit ID)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LT</td>
<td>Open pipe</td>
<td>Metal</td>
<td>Circular</td>
<td>Diameter: 10 in</td>
<td>No</td>
<td>(Unit ID)</td>
</tr>
<tr>
<td>ART</td>
<td></td>
<td>PVC/Plastic</td>
<td>Double</td>
<td>Width (Top):</td>
<td>Partially</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Brick</td>
<td>Elliptical</td>
<td>(in)</td>
<td>Fully</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other</td>
<td>Triple</td>
<td>(Bottom): (in)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**CONDITION:**  
- None  
- Chip/Cracked  
- Peeling Paint  
- Corrosion  
- Other:

**ODOR:**  
- None  
- Gas  
- Sewage  
- Rancid/Sour  
- Sulfide  
- Other:

**DEPOSITS/STAINS:**  
- None  
- Oily  
- Flow Line  
- Paint  
- Other:

**VEGGIE DENSITY:**  
- None  
- Normal  
- Inhibited  
- Excessive  
- Other:

**PIPE BENTHIC GROWTH:**  
- None  
- Brown  
- Orange  
- Green  
- Other:

**POOL QUALITY:**  
- No pool  
- Good Odors  
- Colors  
- Oils  
- Suds  
- Algae  
- Floatables  
- Other:

**FOR FLOWING ONLY**  
- Color: Clear, Brown, Grey, Yellow, Green  
- Turbidity: None, Slight Cloudiness, Cloudy, Opaque  
- Floatables: None, Sewage (toilet paper, etc.), Petroleum (oil sheen)  
- Other:

**OTHER CONCERNS:**  
- Excess Trash (paper/plastic bags)  
- Dumping (bulk)  
- Excessive Sedimentation  
- Needs Regular Maintenance  
- Bank Erosion  
- Other:

**POTENTIAL RESTORATION CANDIDATE**  
- Discharge investigation  
- Stream daylighting  
- Local stream repair/outfall stabilization  
- Storm water retrofit  
- Other:

*If yes for daylighting:*
- Length of vegetative cover from outfall: _______ ft  
- Type of existing vegetation: __________________  
- Slope: ________°

*If yes for stormwater:*
- Is stormwater currently controlled?  
- Yes  
- No  
- Not investigated  
- Land Use description: __________________

**OUTFALL SEVERITY:**  
(circle #)  
- Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.  
- Small discharge: flow mostly clear and odorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor/localized.  
- Outfall does not have dry weather discharge; staining; or appearance of causing any erosion problems.

<table>
<thead>
<tr>
<th>OUTFALL SEVERITY</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
</table>

**SKETCH/NOTES:**

one on RB 4 corresponding one m 18

**REPORTED TO AUTHORITIES:**  
- Yes  
- No
# Storm Water Outfalls

**WATERSHED/SUBSHED:** NEP  
**DATE:** 11/24/09  
**ASSESSED BY:** CMY  

**SURVEY REACH ID:** 13  
**TIME:** : AM/PM  
**PHOTO ID:** (Camera-Pic #)  

**SITE ID** (Condition #:) OT: C  
**LAT:** 41.0471  
**LONG:** 70.2972  
**LMK:**  
**GPS:** (Unit ID)  

<table>
<thead>
<tr>
<th>BANK:</th>
<th>LT</th>
<th>RT</th>
<th>Head</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>FLOW:</td>
<td>None</td>
<td>Trickle</td>
<td>Moderate</td>
<td>Substantial</td>
</tr>
<tr>
<td>CONDITION:</td>
<td>None</td>
<td>Chip/Cracked</td>
<td>Peeling Paint</td>
<td>Corrosion</td>
</tr>
<tr>
<td>ODOR:</td>
<td>No</td>
<td>Gas</td>
<td>Sewage</td>
<td>Rancid/Sour</td>
</tr>
<tr>
<td>DEPOSITS/STAINS:</td>
<td>None</td>
<td>Oily</td>
<td>Flow Line</td>
<td>Paint</td>
</tr>
<tr>
<td>VEGGIE DENSITY:</td>
<td>None</td>
<td>Normal</td>
<td>Inhibited</td>
<td>Excessive</td>
</tr>
<tr>
<td>PIPE BENTHIC GROWTH:</td>
<td>None</td>
<td>Brown</td>
<td>Orange</td>
<td>Green</td>
</tr>
<tr>
<td>POOL QUALITY:</td>
<td>No pool</td>
<td>Good</td>
<td>Odors</td>
<td>Colors</td>
</tr>
<tr>
<td>FOR FLOWING ONLY</td>
<td>COLOR:</td>
<td>Clear</td>
<td>Brown</td>
<td>Grey</td>
</tr>
<tr>
<td>TURBIDITY:</td>
<td>None</td>
<td>Slight Cloudiness</td>
<td>Cloudy</td>
<td>Opaque</td>
</tr>
<tr>
<td>FLOATABLES:</td>
<td>None</td>
<td>Sewage (toilet paper, etc.)</td>
<td>Petroleum (oil sheen)</td>
<td>Other:</td>
</tr>
<tr>
<td>OTHER CONCERNS:</td>
<td>Excess Trash (paper/plastic bags)</td>
<td>Dumping (bulk)</td>
<td>Excessive Sedimentation</td>
<td>Needs Regular Maintenance</td>
</tr>
<tr>
<td>POTENTIAL RESTORATION CANDIDATE</td>
<td>Discharge investigation</td>
<td>Stream daylighting</td>
<td>Local stream repair/outfall stabilization</td>
<td></td>
</tr>
<tr>
<td>If no daylighting:</td>
<td>Length of vegetative cover from outfall: _______ ft</td>
<td>Type of existing vegetation: _______</td>
<td>Slope: _______°</td>
<td></td>
</tr>
<tr>
<td>If yes for daylighting:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If yes for stormwater:</td>
<td>Is stormwater currently controlled?</td>
<td>Land Use description:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>Not investigated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Area available:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OUTFALL SEVERITY:</td>
<td>(circle #)</td>
<td>Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.</td>
<td>Small discharge; flow mostly clear and odorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor/localized.</td>
<td>Outfall does not have dry weather discharge, staining, or appearance of causing any erosion problems.</td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

**REPORTED TO AUTHORITIES:** YES  

---

**SKETCH/NOTES:**
Storm Water Outfalls

<table>
<thead>
<tr>
<th>WATERSHED/SUBSHED:</th>
<th>NP</th>
</tr>
</thead>
<tbody>
<tr>
<td>SURVEY REACH ID:</td>
<td>13</td>
</tr>
<tr>
<td>SITE ID (Condition #: OT):</td>
<td>OT-1</td>
</tr>
<tr>
<td>TIME:</td>
<td>_AM/PM</td>
</tr>
<tr>
<td>PHOTO ID: (Camera Pic #):</td>
<td>none</td>
</tr>
<tr>
<td>GPS: (Unit ID):</td>
<td></td>
</tr>
</tbody>
</table>

| BANK: | LT ART Head |
| FLOW: | None Trickle Moderate Substantial Other: |
| CONDITION: | No Chip/Cracked Peeling Paint Corrosion Other: |
| ODOR: | No Gas Sewage Rancid/Sour Sulfide Other: |
| DEPOSITS/STAINS: | No Oily Flow Line Paint | None Normal Inhibited Excessive Other: |
| VEGGIE DENSITY: | None Normal Inhibited Excessive Other: |
| MATERIAL: | Concrete Metal PVC/Plastic Brick Other: |
| SHAPE: | Single Circular Double Elliptical Triple Other: |
| SUBMERGED: | No Partially Fully |

| FOR FLOWING ONLY: | COLOR: Clear Brown Grey Yellow Green Red Other: |
| TURBIDITY: | None Slight Cloudiness Cloudy Opaque |
| FLOATABLES: | None Sewage (toilet paper, etc.) Petroleum (oil sheen) Other: |
| OTHER CONCERNS: | Excess Trash (paper/plastic bags) Dumping (bulk) Excessive Sedimentation |
| Needs Regular Maintenance Bank Erosion Other: |

| POTENTIAL RESTORATION CANDIDATE: | Discharge investigation Stream daylighting Local stream repair/outfall stabilization |
| Storm water retrofit Other: |

If yes for daylighting:
Length of vegetative cover from outfall: _ ft Type of existing vegetation: _ slope: _

If yes for stormwater:
Is stormwater currently controlled? Yes No Not investigated Land Use description: |

| OUTFALL SEVERITY: (circle #) | Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream. |
| Small discharge; flow mostly clear and odorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor/localized. |

| REPORTED TO AUTHORITIES: | YES NO |

SKETCH/NOTES: located approx 3' high
SURVEY REACH ID: [H]  WTRSHD/SMHID: [NBP]  DATE: [1/24/01]  ASSESSED BY: [CM/RC]

START  TIME: [9:30 AM]  LMK:
LAT: [41° 40' 30"
LONG: [72° 42' 04"
DESCRIPTION: [NBP REACH 14]

END  TIME: [12:30 PM]  LMK:
LAT: [41° 40' 50"
LONG: [72° 42' 02"
DESCRIPTION: [Potomac River right bank]

RAIN IN LAST 24 HOURS  □ Heavy rain  □ Steady rain  □ None
□ Intermittent  □ Trace  □ Overcast  □ Partly cloudy

SURROUNDING LAND USE: □ Industrial  □ Commercial  □ Urban/Residential  □ Suburban/Res  □ Forested  □ Institutional  □ Golf course  □ Park  □ Crop  □ Pasture  □ Other:

AVERAGE CONDITIONS (check applicable)

BASE FLOW AS % □ 0-25% □ 50%-75% □ 75-100%
CHANNEL WIDTH □ 25-50% □ 75-100%

DOMINANT SUBSTRATE
□ Silt/clay (fine or slick)  □ Cobble (2.5-10")
□ Sand (gritty)  □ Boulder (>10")
□ Gravel (0.1-2.5")  □ Bed rock

WATER CLARITY  □ Clear  □ Turbid (suspended matter)
□ Stained (clear, naturally colored)  □ Opaque (milky)
□ Other (chemicals, dyes)

AQUATIC PLANTS IN STREAM
Attached:  □ none  □ some  □ lots
Floating:  □ none  □ some  □ lots

WILDLIFE IN OR AROUND STREAM
□ Fish  □ Beaver  □ Deer  □ Other:
□ Evidence of:
Snails  □ Other:

STREAM SHADING (water surface)
□ Mostly shaded (>75% coverage) □ Halfway (50%)
□ Partially shaded (25%)  □ Unshaded (<25%)

CHANNEL DYNAMICS
□ Downcutting  □ Widening  □ Headcutting  □ Aggrading
□ Bed scour  □ Bank failure  □ Bank scour  □ Slope failure
□ Sed. deposition  □ Channelized
□ Unknown

CHANNEL WIDTH
□ L.T. bank (ft) □ R.T. bank (ft)
□ Bottom (ft) □ Top (ft)

REACH ACCESSIBILITY
□ Good: Open area in public ownership, sufficient room to stockpile materials, easy stream channel access for heavy equipment using existing roads or trails.
□ Fair: Forested or developed area adjacent to stream. Access requires tree removal or impact to landscaped areas. Stockpile areas small or distant from stream.
□ Difficult: Must cross wetland, steep slope, or sensitive areas to get to stream. Few areas to stockpile available and located a great distance from stream. Specialized heavy equipment required.

NOTES: (biggest problem you see in survey reach)
□ Trash in water, i.e., styrofoam cups and plates, plastic bottles, some invasive plants; but overall, there is wide forested buffer—particularly along the left bank. There is mature floodplain forest with many trees Ø8 > 30" and excellent riparian wildlife habitat.

REPORTED TO AUTHORITIES  □ Yes  □ No
### OVERALL STREAM CONDITION

<table>
<thead>
<tr>
<th></th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IN-STREAM HABITAT</strong></td>
<td>Greater than 70% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobbles or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new (all and not transient).</td>
<td>40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).</td>
<td>20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.</td>
<td>Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.</td>
</tr>
<tr>
<td>(May modify criteria based on appropriate habitat regime)</td>
<td>20 19 18 17 16</td>
<td>15 14 13 12 11</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1 0</td>
</tr>
<tr>
<td><strong>VEGETATIVE PROTECTION</strong></td>
<td>More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.</td>
<td>70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.</td>
<td>50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.</td>
<td>Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.</td>
</tr>
<tr>
<td>(score each bank; determine sides by facing downstream)</td>
<td>Left Bank 10 9</td>
<td>7 6</td>
<td>5 4 3</td>
<td>2 1 0</td>
</tr>
<tr>
<td></td>
<td>Right Bank 10 9</td>
<td>7 6</td>
<td>5 4 3</td>
<td>2 1 0</td>
</tr>
<tr>
<td><strong>BANK EROSION</strong> (facing downstream)</td>
<td>Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. &lt;5% of bank affected.</td>
<td>Grade and width stable; isolated areas of bank failure/erosion; likely caused by a pipe outfall, local scour, impaired riparian vegetation or adjacent use.</td>
<td>Past downcutting evidence; active stream widening, banks actively eroding at a moderate rate; no threat to property or infrastructure.</td>
<td>Active downcutting; tall banks on both sides of the stream eroding at a fast rate; erosion contributing significant amount of sediment to stream; obvious threat to property or infrastructure.</td>
</tr>
<tr>
<td></td>
<td>Left Bank 10 9</td>
<td>7 6</td>
<td>5 4 3</td>
<td>2 1 0</td>
</tr>
<tr>
<td></td>
<td>Right Bank 10 9</td>
<td>7 6</td>
<td>5 4 3</td>
<td>2 1 0</td>
</tr>
<tr>
<td><strong>FLOODPLAIN CONNECTION</strong></td>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>High flows (greater than bankfull) able to enter floodplain. Stream deeply entrenched.</td>
<td>High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched.</td>
</tr>
<tr>
<td></td>
<td>20 19 18 17 16</td>
<td>15 14 13 12 11</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1 0</td>
</tr>
</tbody>
</table>

### OVERALL BUFFER AND FLOODPLAIN CONDITION

<table>
<thead>
<tr>
<th></th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VEGETATED BUFFER WIDTH</strong></td>
<td>Width of buffer zone &gt;50 feet; human activities (i.e., parking lots, roadbeds, clearcuts, lawns, crops) have not impacted zone.</td>
<td>Width of buffer zone 25-50 feet; human activities have impacted zone only minimally.</td>
<td>Width of buffer zone 10-25 feet; human activities have impacted zone a great deal.</td>
<td>Width of buffer zone &lt;10 feet; little or no riparian vegetation due to human activities.</td>
</tr>
<tr>
<td></td>
<td>Left Bank 10 9</td>
<td>7 6</td>
<td>5 4 3</td>
<td>2 1 0</td>
</tr>
<tr>
<td></td>
<td>Right Bank 10 9</td>
<td>7 6</td>
<td>5 4 3</td>
<td>2 1 0</td>
</tr>
<tr>
<td><strong>FLOODPLAIN VEGETATION</strong></td>
<td>Predominant floodplain vegetation type is mature forest.</td>
<td>Predominant floodplain vegetation type is young forest.</td>
<td>Predominant floodplain vegetation type is shrub or old field.</td>
<td>Predominant floodplain vegetation type is turf or crop land.</td>
</tr>
<tr>
<td></td>
<td>20 19 18 17 16</td>
<td>15 14 13 12 11</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1 0</td>
</tr>
<tr>
<td><strong>FLOODPLAIN HABITAT</strong></td>
<td>Even mix of wetland and non-wetland habitats, evidence of standing/ponded water.</td>
<td>Even mix of wetland and non-wetland habitats, no evidence of standing/ponded water.</td>
<td>Either all wetland or all non-wetland habitat, evidence of standing/ponded water.</td>
<td>Either all wetland or all non-wetland habitat, no evidence of standing/ponded water.</td>
</tr>
<tr>
<td></td>
<td>20 19 18 17 16</td>
<td>15 14 13 12 11</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1 0</td>
</tr>
<tr>
<td><strong>FLOODPLAIN ENCROACHMENT</strong></td>
<td>No evidence of floodplain encroachment in the form of fill material, land development, or manmade structures.</td>
<td>Minor floodplain encroachment in the form of fill material, land development, or manmade structures, but not affecting floodplain function.</td>
<td>Moderate floodplain encroachment in the form of filling, land development, or manmade structures, some effect on floodplain function.</td>
<td>Significant floodplain encroachment (i.e. fill material, land development, or man-made structures). Significant effect on floodplain function.</td>
</tr>
<tr>
<td></td>
<td>20 19 18 17 16</td>
<td>15 14 13 12 11</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1 0</td>
</tr>
</tbody>
</table>

Sub Total In-stream: 61 /80 + Buffer/Floodplain: 72 /80 = Total Survey Reach 341 /160
### Impact Buffer

**Watershed/Subshed:** NBP
**Survey Reach:** 14
**Date:** 11/30/07
**Assessed By:** CCR 14G

<table>
<thead>
<tr>
<th>Site ID (Condition)</th>
<th>Start Lat</th>
<th>Long</th>
<th>LMK</th>
<th>End Lat</th>
<th>Long</th>
<th>LMK</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Impacted Bank:</th>
<th>Private</th>
<th>Institutional</th>
<th>Golf Course</th>
<th>Park</th>
<th>Other Public</th>
</tr>
</thead>
<tbody>
<tr>
<td>LT Bank</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>RT Bank</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dominant Land Use:</th>
<th>Paved</th>
<th>Bare ground</th>
<th>Turf/lawn</th>
<th>Tall grass</th>
<th>Shrub/scrub</th>
<th>Trees</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>LT Bank</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>RT Bank</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

**Invasive Plants:**
- [ ] None
- [ ] Rare
- [ ] Partial coverage
- [ ] Extensive coverage
- [ ] Unknown

**Stream Shade Provided?**
- [ ] None
- [ ] Partial
- ☑ Full

**Wetlands Present?**
- [ ] No
- ☑ Yes
- [ ] Unknown

**Potential Restoration Candidate**: ☑ Active reforestation ☑ Greenway design ☑ Natural regeneration ☑ Invasives removal
- [ ] Other:

### Restorable Area

- **LT Bank**
  - [ ] Active reforestation
  - [ ] Greenway design
  - [ ] Natural regeneration
  - [ ] Invasives removal
- [ ] Other:

- **RT Bank**

**Potential Conflicts with Reforestation**
- [ ] Widespread invasive plants
- [ ] Potential contamination
- [ ] Lack of sun
- [ ] Poor/unsafe access to site
- [ ] Existing impervious cover
- [ ] Severe animal impacts (deer, beaver)
- [ ] Other:

### Potential Restoration Area

<table>
<thead>
<tr>
<th>Area</th>
<th>LT Bank</th>
<th>RT Bank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length (ft)</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Width (ft)</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

### Potential Reforestation Potential:

<table>
<thead>
<tr>
<th>Circled #</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>Impacted area on public land where the riparian area does not appear to be used for any specific purpose; plenty of area available for planting</td>
</tr>
<tr>
<td>☐</td>
<td>Impacted area on either public or private land that is presently used for a specific purpose; available area for planting adequate</td>
</tr>
<tr>
<td>☐</td>
<td>Impacted area on private land where road; building encroachment or other feature significantly limits available area for planting</td>
</tr>
</tbody>
</table>

### Notes:

1. Minor bank erosion to RB adjacent to brick masonry (see pic. 58)
2. Remnant stone Mason bridge 41° 46' 43" / 72° 46' 07" - see pic. 60
3. Trash behind low-income housing
4. Very minor bank erosion on RB but looks like good wildlife habitat (wetlands) - not easy reach.
5. Remnant stone Mason bridge 41° 46' 75" / 72° 42' 19" - King Fisher basin here
6. Remnant stone Mason bridge 2 41° 46' 75" / 72° 42' 26"
7. These issues are minor and overall this reach is in good condition. The riparian area is mostly a natural floodplain forest and trees with a diameter of breast height 7.30" are common on the floodplain.
Storm Water Outfalls

WATERSHED/SUBSHED: NSP

SURVEY REACH ID: 14

TIME: ___ AM/PM

PHOTO ID: (Camera-Pic #) PG 400 #59

SITE ID (Condition #:) OT: A

LAT 41°46'40" LONG 72°14'06" LMK___

GPS: (Unit ID)

BANK: [ ] LT [ ] RT [ ] Head

FLOW: [ ] None [ ] Trickle [ ] Moderate [ ] Substantial [ ] Other: ?

TYPE: [ ] Closed pipe

MATERIAL: [ ] Concrete [ ] Metal [ ] PVC/Plastic [ ] Brick

Other:

SHAPE: [ ] Single [ ] Double [ ] Circular [ ] Elliptical [ ] Triple

Other:

DIMENSIONS: Diameter: 18" (in)

SUBMERGED: [ ] No [ ] Partially (~1/2) [ ] Fully

NATURAL APPLLICABLE

CONDITION: [ ] None [ ] Chip/Cracked [ ] Peeling Paint [ ] Corrosion [ ] Other: ?

ODOR: [ ] No [ ] Gas [ ] Sewage [ ] Rancid/Sour [ ] Sulfide [ ] Other:

DEPOSITS/STAINS: [ ] None [ ] Oily [ ] Flow Line [ ] Paint [ ] Other:

VEGGIE DENSITY: [ ] None [ ] Normal [ ] Inhibited [ ] Excessive [ ] Other:

PIPE BENTHIC GROWTH: [ ] None [ ] Brown [ ] Orange [ ] Green [ ] Other:

POOL QUALITY: [ ] No pool [ ] Good [ ] Odors [ ] Colors [ ] Oils [ ] Suds [ ] Algae [ ] Floatables [ ] Other:

COLOR: [ ] Clear [ ] Brown [ ] Grey [ ] Yellow [ ] Green [ ] Orange [ ] Red [ ] Other:

TURBIDITY: [ ] None [ ] Slight Cloudiness [ ] Cloudy [ ] Opaque

FLOATABLES: [ ] None [ ] Sewage (toilet paper, etc.) [ ] Petroleum (oil sheen) [ ] Other:

Other Concerns:

Excess Trash (paper/plastic bags) [ ] Dumping (bulk) [ ] Excessive Sedimentation

Needs Regular Maintenance [ ] Bank Erosion [ ] Other: Fence in water (bank)

Discharge investigation [ ] Stream daylighting [ ] Local stream repair/outfall stabilization

Storm water retrofit [ ] Other:

If yes for daylighting:
Length of vegetative cover from outfall: _______ ft Type of existing vegetation: ___________ Slope: _______°

If yes for stormwater:
Is stormwater currently controlled? Land Use description:
[ ] Yes [ ] No [ ] Not investigated Area available:

OUTFALL SEVERITY: (circle #)

Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.

Small discharge; flow mostly clear and odorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor/localized.

OUTFALL does not have dry weather discharge; staining; or appearance of causing any erosion problems.

5 4 3 2 1

SKETCH/NOTES: Located behind 10-story building.

REPORTED TO AUTHORITIES: [ ] YES [ ] NO
Storm Water Outfalls

WATERSHED/SUBSHED: N/S
SURVEY REACH ID: 14
SITE ID (Condition-#): OT-
LAT 0' 0" LONG 0' 0"

PHOTO ID: (Camera-Pic #) 6040/11 04

BANK: LT RT Head
FLOW: None Trickle

MATERIAL: Concrete Metal PVC/Plastic Brick Other:

SHAPE: Single Circular Double Elliptical Triple Other:

PROFILE: Trapezoid Parabolic Other:

DIMENSIONS: Diameter: 9 (in)
Depth: (in)
Width (Top): (in)

SUBMERGED: No Partially Fully

NOT APPLICABLE

CONDITION: None Chip/Cracked Peeling Paint Corrosion

OTHER: See Notes

ODOR: Gas Sewage Rancid/Sour Sulfide Other:

DEPOSITS/STAINS: None Oily Flow Line Paint Other:

VEGGLIE DENSITY: None Normal Inhibited Excessive Other:

PIPE BENTHIC GROWTH: None Brown Orange Green Other:

POOL QUALITY: No pool Good Odors Colors Oils Suds Algae Floatables Other:

FOR FLOWING ONLY
COLOR: Clear Brown Grey Yellow Green Orange Red Other:

TURBIDITY: None Slight Cloudiness Cloudy Opaque

FLOTABLES: None Sewage (toilet paper, etc) Petroleum (oil sheen) Other:

OTHER CONCERNS: Excess Trash (paper/plastic bags) Dumping (bulk) Excessive Sedimentation Needs Regular Maintenance Bank Erosion Other:

POTENTIAL RESTORATION CANDIDATE
Discharge investigation Stream daylighting Local stream repair/outfall stabilization
Storm water retrofit Other:

If yes for daylighting:
Length of vegetative cover from outfall:
Type of existing vegetation:
Slope:

If yes for stormwater:
Is stormwater currently controlled?
Land Use description:

OUTFALL SEVERITY:
(circle #) Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.
Small discharge; flow mostly clear and odorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor/localized.
Outfall does not have dry weather discharge; staining or appearance of causing any erosion problems.

5 4 3 2 1

SKETCH/NOTES:
This looks like some kind of headwall with an overhanging flap - however, it was closed and didn't look like it functions properly (?). Located behind some kind of medical facility.

REPORTED TO AUTHORITIES: YES NO
Storm Water Outfalls

WATERSHED/SUBSHED: NBP
DATE: 11/24/07
ASSESSED BY: CM/6

SURVEY REACH ID: 14
TIME: ___ AM/PM
PHOTO ID: (Camera-Pic #) 533400 1# 6 + 08

SITE ID (Condition #): OT-8
LAT 41 ° 46.458' " LONG 72 ° 39.08.6' " LMK ____

GPS: (Unit ID)

BANK: ✗ LT �试 Head
FLOW: None  Trickle
Moderate  Substantial  Other:

TYPE: ✗ Closed pipe
Open channel

MATERIAL: ✗ Concrete  Metal
PVC/Plastic  Brick  Other:

SHAPE: Single  Circular  Double  Elliptical  Triple  Other:

DIMENSIONS: Diameter: 24 (in)
Depth: ____ (in)
Side: Width (Top): ____ (in)  Bottom: ____ (in)

SUBMERGED: No  Partially  Fully

NOT APPLICABLE

CONDITION: None  Chip/CRacked  Peeling Paint
Corrosion  Other: See NOTES below

ODOR: ✗ No Gas  Sewage  Rancid/Sour  Sulfide  Other:

DEPOSITS/STAINS: None  Oily  Flow Line  Paint  Other:

VEGIE DENSITY: ✗ None  Normal  Inhibited  Excessive  Other:

PIPE BENTHIC GROWTH: ✗ None  Brown  Orange  Green  Other:

POOL QUALITY: ✗ No pool  Good  Odors  Colors  Oils  Suds  Algae  Floatables  Other:

FOR COLOR: Clear  Brown  Grey  Yellow  Green  Red  Other:

FLOWING TURBIDITY: ✗ None  Slight Cloudiness  Cloudy  Opaque  Other:

ONLY FLOATABLES: ✗ None  Sewage (toilet paper, etc.)  Petroleum (oil sheen)  Other:

OTHER CONCERNS: Excess Trash (paper/plastic bags)  Dumping (bulk)  Excessive Sedimentation
Needs Regular Maintenance  Bank Erosion  Other:

POTENTIAL RESTORATION CANDIDATE
Discharge investigation  Stream daylighting  Local stream repair/outfall stabilization
Storm water retrofit  Other:

If yes for daylighting:
Length of vegetative cover from outfall: ______ ft  Type of existing vegetation: ______  Slope: ______

If yes for stormwater:
Is stormwater currently controlled? Yes  No  Not investigated
Land Use description:

OUTFALL SEVERITY:
(circle #)

Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.

Small discharge; flow mostly clear and odorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor/localized.

Outfall does not have dry weather discharge, staining, or appearance of causing any erosion problems.

Outfall does not have dry weather discharge, staining, or appearance of causing any erosion problems.

5  4  3  2  1

SKETCH/NOTES: Concrete chunks around outfall(s). Slope/

REPORTED TO AUTHORITIES: Yes  No
### Watershed/Subshed:
NBP

### Survey Reach ID:
14

### Site ID (Condition #):
OT-

### Date:
1/24/09

### Time:
AM/PM

### Photo ID (Camera-Pic #):
none

### Bank:
□ Left □ Right □ Head

### Flow:
□ None □ Trickle □ Moderate □ Substantial □ Other:

□ Closed pipe
□ Open channel

### Type:

<table>
<thead>
<tr>
<th>Material</th>
<th>Single</th>
<th>Double</th>
<th>Elliptical</th>
<th>Triple</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concrete</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Metal</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>PVC/Plastic □</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Brick</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Other:</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

### Shape:

| Single | Diameter: (in) |
|□        |                |
|□        |                |

### Submerged:
□ No □ Partially □ Fully

### Condition:
□ None □ Chip/Cracked □ Peeling Paint □ Corrosion □ Other:

### Odor:
□ No □ Gas □ Sewage □ Rancid/Sour □ Sulfide □ Other:

### Deposits/Stains:
□ None □ Oily □ Flow Line □ Paint □ Other:

### Veggie Density:
□ None □ Normal □ Inhibited □ Excessive □ Other:

### Pipe Benthic Growth:
□ None □ Brown □ Orange □ Green □ Other:

### Pool Quality:
□ No pool □ Good □ Odors □ Colors □ Oils □ Suds □ Algae □ Floatables □ Other:

### Potential Restoration Candidate:
□ Discharge investigation □ Stream daylighting □ Local stream repair/outfall stabilization □ Storm water retrofit □ Other:

### For Flowing Only:

<table>
<thead>
<tr>
<th>Color:</th>
<th>□ Clear □ Brown □ Grey □ Yellow □ Green □ Orange □ Red □ Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turbidity:</td>
<td>□ None □ Slight Cloudiness □ Cloudy □ Opaque</td>
</tr>
<tr>
<td>Floatables:</td>
<td>□ None □ Sewage (toilet paper, etc.) □ Petroleum (oil sheen) □ Other</td>
</tr>
</tbody>
</table>

### Other Concerns:
□ Excess Trash (paper/plastic bags) □ Dumping (bulk) □ Excessive Sedimentation □ Needs Regular Maintenance □ Bank Erosion □ Other:

### Sketch/Notes:

5 4 3 2 1

### Reported to Authorities:
□ Yes □ No
**Storm Water Outfalls**

**Watershed/Subshed:** NBP

**Survey Reach ID:** M

**Site ID (Condition #:)** OT: D

**LAT:** 41° 46' 48" **LONG:** 72° 42' 17"

**Time:** AM/PM

**Photo ID:** (Camera-Pic #:) none /#

**Assessed By:** CM 185

**Dimensions:**
- Diameter: 10 ft
- Depth: (in)
- Width (Top): (in)
- (Bottom): (in)

**Condition:**
- None
- Chip/Cracked
- Peeling Paint
- Corrosion
- Other:

**Bent Submerged:**
- No
- Partially
- Fully

**Flow:**
- None
- Trickle
- Moderate
- Substantial
- Other:

**Type:**
- Closed Pipe
- Open Channel

**Material:**
- Concrete
- Metal
- PVC/Plastic
- Brick
- Other:

**Shape:**
- Circular
- Double
- Elliptical
- Triple
- Other:

**Vegetation Density:**
- None
- Normal
- Inhibited
- Excessive
- Other:

**Pipe Benthic Growth:**
- None
- Brown
- Orange
- Green
- Other:

**Pool Quality:**
- No pool
- Good
- Odors
- Colors
- Oil
- Suds
- Algae
- Floatables
- Other:

**For Flowing Only:**
- Color:
  - Clear
  - Brown
  - Grey
  - Yellow
  - Green
  - Orange
  - Red
  - Other

- Turbidity:
  - None
  - Slight Cloudiness
  - Cloudy
  - Opaque

- Floatables:
  - None
  - Sewage (toilet paper, etc.)
  - Petroleum (oil sheen)
  - Other:

**Other Concerns:**
- Excess Trash (paper/plastic bags)
- Dumpster (bulk)
- Excessive Sedimentation
- Needs Regular Maintenance
- Bank Erosion
- Other:

**Potential Restoration Candidate:**
- Discharge investigation
- Stream daylighting
- Local stream repair/outfall stabilization
- Storm water retrofit
- Other:

*If yes for daylighting:*

- Length of vegetative cover from outfall: ______ ft
- Type of existing vegetation: __________________________
- Slope: ______

*If yes for stormwater:*

- Is stormwater currently controlled? Yes / No
- Not investigated
- Land Use description: ________________________________

**Outfall Severity:**

<table>
<thead>
<tr>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Sketch/Notes:** Located at both banks; approximately 10' downstream of the OT, there are 2 sewer holes (one on each bank). The one on the left bank was open - both smelled like sewage.

**Reported to Authorities:** Yes / No
### Storm Water Outfalls

#### Watershed/Subshed: NB

**Survey Reach ID:** 14  
**Time:** 12:00 AM  
**Photo ID:** (Camera-Pic #)  
**Site ID (Condition #):** OT  
**Latitude:** 41° 0' 0"  
**Longitude:** 88° 0' 0"  
**Lat:** 41  
**Long:** 88  
**LMK:**  
**GPS:** (Unit ID)

#### Bank:
- [ ] LT  
- [x] RT  
- [ ] Head

#### Flow:
- [ ] None  
- [ ] Trickle  
- [ ] Moderate  
- [ ] Substantial  
- [ ] Other:

#### Type:
- [x] Open channel  
- [ ] Closed pipe  
- [ ] Other:

#### Condition:
- [ ] None  
- [ ] Chip/Cracked  
- [ ] Peeling Paint  
- [ ] Corrosion  
- [ ] Other:

#### Odor:
- [ ] No  
- [ ] Gas  
- [ ] Sewage  
- [ ] Rancid/Sour  
- [ ] Sulfide  
- [ ] Other:

#### Deposits/Stains:
- [ ] None  
- [ ] Oily  
- [ ] Flow Line  
- [ ] Paint  
- [ ] Other:

#### Veggie Density:
- [ ] None  
- [ ] Normal  
- [ ] Inhibited  
- [ ] Excessive  
- [ ] Other:

#### Pipe Benthic Growth:
- [ ] None  
- [ ] Brown  
- [ ] Orange  
- [ ] Green  
- [ ] Other:

#### Pool Quality:
- [x] No pool  
- [ ] Good  
- [ ] Odors  
- [ ] Colors  
- [ ] Oils  
- [ ] Suds  
- [ ] Algae  
- [ ] Floatables  
- [ ] Other:

#### Potential Restoration Candidate:
- [ ] Discharge investigation  
- [ ] Storm day lighting  
- [ ] Local stream repair/outfall stabilization  
- [ ] Storm water retrofit  
- [ ] Other:

#### For Flowing Only:
- [ ] Color: Clear  
- [ ] Brown  
- [ ] Grey  
- [ ] Yellow  
- [ ] Green  
- [ ] Red  
- [ ] Other:

#### Turbidity:
- [ ] None  
- [ ] Slight Cloudiness  
- [ ] Cloudy  
- [ ] Opaque  
- [ ] Other:

#### Floatables:
- [ ] None  
- [ ] Sewage (toilet paper, etc.)  
- [ ] Petroleum (oil sheen)  
- [ ] Other:

#### Other Concerns:
- [ ] Excess Trash (paper/plastic bags)  
- [x] Dumping (bulk)  
- [ ] Excessive Sedimentation  
- [x] Needs Regular Maintenance  
- [ ] Bank Erosion  
- [ ] Other:

#### Potential Restoration Candidate:
- [ ] Yes  
- [x] No  
- [ ] Not investigated  
- [ ] Area available:

#### Outfall Severity:
- [ ] Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.  
- [ ] Small discharge; flow mostly clear and odorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor/localized.  
- [ ] Outfall does not have dry weather discharge, staining; or appearance of causing any erosion problems.

#### Sketch/Notes:

---

**Date:** 1/24/09  
**Assessed By:**  
**Reported to Authorities:** [ ] Yes  
[ ] No
Storm Water Outfalls

**Watershed/Subshed:** NBP

**Survey Reach ID:** 14

**Site ID:** OT

**Date:** 11/24/09

**Assessed by:** CM/66

**Time:** AM/PM

**Photo ID:** (Camera-PIc #) PB40016

**Lat:** 41° 46' 44" 
**Long:** 72° 42' 01"

**LMK**

**GPS:** (Unit ID)

**Bank:**
- [ ] LT
- [ ] RT
- [ ] Head

**Flow:**
- [ ] None
- [ ] Trickle
- Moderate
- Substantial
- Other:

**Type:**
- [ ] Closed pipe
- Open channel

**Material:**
- [ ] Concrete
- [ ] Metal
- [ ] PVC/Plastic
- [ ] Brick
- Other:

**Shape:**
- [ ] Single
- [ ] Circular
- [ ] Double
- [ ] Elliptical
- [ ] Triple
- Other:

**Dimensions:**
- Diameter: ___ in
- Depth: ___ (in)
- Width (Top): ___ (in)
- " (Bottom): ___ (in)

**Condition:**
- None
- Chip/Cracked
- Peeling Paint
- Corrosion
- Other:

**Odor:**
- [ ] None
- [ ] Gas
- [ ] Sewage
- [ ] Rancid/Sour
- [ ] Sulfide
- Other:

**Deposits/Stains:**
- [ ] None
- [ ] Oily
- [ ] Flow Line
- [ ] Paint
- Other:

**Vegetation Density:**
- [ ] None
- [ ] Normal
- [ ] Inhibited
- [ ] Excessive
- Other:

**Pipe Benthic Growth:**
- [ ] None
- [ ] Brown
- [ ] Orange
- [ ] Green
- Other:

**Pool Quality:**
- [ ] No pool
- [ ] Good
- [ ] Odors
- [ ] Colors
- [ ] Oils
- [ ] Suds
- [ ] Algae
- Floatables
- Other:

**Potential Restoration Candidate:**
- [ ] Discharge investigation
- [ ] Stream daylighting
- [ ] Local stream repair/outfall stabilization
- [ ] Storm water retrofit
- Other:

If yes for daylighting:
- Length of vegetative cover from outfall: ___ ft
- Type of existing vegetation:
- Slope: ___°

If yes for stormwater:
- Is stormwater currently controlled?
- Yes
- No
- Not investigated
- Area available:

**Outfall Severity:**

**Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.**

**Small discharge; flow mostly clear and odorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor/localized.**

**Outfall does not have dry weather discharge; staining; or appearance of causing any erosion problems.**

**Sketch/Notes:**

outfall pipe is disconnected from headwall + pipe behind headwall (leader). No flow

**Reported to authorities:** [ ] Yes [ ] No
Reach Level Assessment

Survey Reach ID: 15
Wtrshd/Subshd: NBP
Date: 11/24/97
Assessed by: [Signature]

Start Time: 10:30 AM
LMK: [Markings]
Lat: 41° 40' 13"
Long: 70° 42' 13"
Description: Elizabeth Park, Street Ave.

End Time: 12:30 PM
LMK: [Markings]
Lat: 41° 40' 36"
Long: 70° 42' 04"
Description: Tulipway, Junction Wharf

Rain in Last 24 Hours: ☑Heavy rain
☑Steady rain
Present Conditions: ☑Heavy rain
☑Steady rain
☑Intermittent
☑None
☑Intermittent
☑Trace
☑Clear
☑Trace
☑Overcast
☑Partly cloudy

Surrounding Land Use: ☑Industrial
☑Commercial
☑Golf course
☑Park
☑Urban/Residential
☑Suburban/Res
☑Forest
☑Institutional
☑Crop
☑Pasture
☑Other:

Average Conditions (check applicable)

Base Flow as %
☑0-25%
☐50-75%
☒75-100%

Channel Width
☑25-50%
☒50-75%
☐75-100%

Dominant Substrate
☑Silt/clay (fine or slick)
☐Sand (gritty)
☑Boulder (>1.5")
☐Gravel (0.1-2.5")
☒Bed rock

Water Clarity
☐Clear
☑Turbid (suspended matter)
☐Stained (clear, naturally colored)
☐Opaque (milky)
☐Other (chemicals, dyes)

Aquatic Plants in Stream
Attached: ☑none
☐some
☐lots
Floating: ☒none
☐some
☐lots

Wildlife in or around stream
(Evidence of)
☑Fish
☑Beaver
☑Deciduous
☑Other

Stream Shading (water surface)
☒Mostly shaded (>75% coverage)
☐Halfway (>50%)
☐Partially shaded (>25%)
☐Unshaded (<25%)

Channel Dynamics
☐Downcutting
☐Widening
☐Headcutting
☑Aggrading
☐Sed. deposition
☐Bank failure
☐Bank flood
☐Slope failure
☐Channelized

Reach Sketch and Site Impact Tracking
Simple plan sketch of survey reach. Track locations and IDs for all site impacts within the survey reach (OT, ER, IB, SC, UT, TR, MI) as well as any additional features deemed appropriate. Indicate direction of flow.

Reach 14

---

Reach Assessment

Good: Open area in public ownership, sufficient room to stockpile materials, easy stream channel access for heavy equipment using existing roads or trails.

Fair: Forested or developed area adjacent to stream. Access requires tree removal or impact to landscaped areas. Stockpile areas small or distant from stream.

Difficult: Must cross wetland, steep slope, or sensitive areas to get to stream. Few areas to stockpile available and/or located a great distance from stream. Specialized heavy equipment required.

Notes: (biggest problem you see in survey reach)
Impacted buffer due to parking lots, maintenance
areas, invasive plants (T. knotweed), trash, streamwater: oth + chunks of concrete in isolated areas.

Reported to Authorities: ☑Yes
☐No
### OVERALL STREAM CONDITION

<table>
<thead>
<tr>
<th>In-stream Habitat</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>(May modify criteria based on appropriate habitat regime)</td>
<td>Greater than 70% of substrate favorable for epilithic colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).</td>
<td>40-70% mix of stable habitat well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).</td>
<td>20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.</td>
<td>Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vegetative Protection</td>
<td>More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.</td>
<td>70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.</td>
<td>50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common, less than one-half of the potential plant stubble height remaining.</td>
<td>Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.</td>
</tr>
<tr>
<td>(score each bank, determine sides facing downstream)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bank Erosion (facing downstream)</td>
<td>Banks stable, evidence of erosion or bank failure absent or minimal; little potential for future problems. &lt;5% of bank affected.</td>
<td>Grading and width stable; isolated areas of bank failure/erosion; likely caused by a pipe outfall, local scour, impaired riparian vegetation or adjacent uses.</td>
<td>Past downcutting evident, active stream widening, banks actively eroding at a moderate rate; no threat to property or infrastructure.</td>
<td>Active downcutting; tail banks on both sides of the stream eroding at a fast rate; erosion contributing significant amount of sediment to stream; obvious threat to property or infrastructure.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Floodplain Connection</td>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched.</td>
<td>High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched.</td>
</tr>
</tbody>
</table>

### OVERALL BUFFER AND FLOODPLAIN CONDITION

<table>
<thead>
<tr>
<th>Vegetated Buffer Width</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width of buffer zone &gt;50 feet; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, crops) have not impacted zone.</td>
<td>Width of buffer zone 25-50 feet; human activities have impacted zone only minimally.</td>
<td>Width of buffer zone 10-25 feet; human activities have impacted zone a great deal.</td>
<td>Width of buffer zone &lt;10 feet; little or no riparian vegetation due to human activities.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Floodplain Vegetation</td>
<td>Predominant floodplain vegetation type is mature forest</td>
<td>Predominant floodplain vegetation type is young forest</td>
<td>Predominant floodplain vegetation type is shrub or old field</td>
<td>Predominant floodplain vegetation type is turf or crop land</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Floodplain Habitat</td>
<td>Even mix of wetland and non-wetland habitats, evidence of standing/ponded water</td>
<td>Even mix of wetland and non-wetland habitats, no evidence of standing/ponded water</td>
<td>Either all wetland or all non-wetland habitat, no evidence of standing/ponded water</td>
<td>Either all wetland or all non-wetland habitat, no evidence of standing/ponded water</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Floodplain Encroachement</td>
<td>No evidence of floodplain encroachment in the form of fill material, land development, or manmade structures</td>
<td>Minor floodplain encroachment in the form of fill material, land development, or manmade structures, but not effecting floodplain function</td>
<td>Moderate floodplain encroachment in the form of filling, land development, or manmade structures, some effect on floodplain function</td>
<td>Significant floodplain encroachment (i.e. fill material, land development, or man-made structures). Significant effect on floodplain function</td>
</tr>
</tbody>
</table>

### Sub Total In-stream: 4/80 + Buffer/Floodplain: 6/80 = Total Survey Reach 10/160
**Impact Buffer**

**Watershed/Subshed:** NAP

**Survey Reach:** 15

**Site ID:** (Condition-#)

**Start Lat:** 41° 44' 38" N  **Long:** 72° 42' 12"  **Lmk:** ___

**End Lat:** 41° 46' 28" N  **Long:** 72° 48' 08.9"  **Lmk:** ___

**Impacted Bank:**
- LT [ ]
- RT [ ]
- Both [ ]

**Reason Inadequate:**
- Lack of vegetation [ ]
- Too narrow [ ]
- Widespread invasive plants [ ]
- Recently planted [ ]
- Other: ___

**Land Use:**
- Private [ ]
- Institutional [ ]
- Golf Course [ ]
- Park [ ]
- Other Public Parking lots [ ]
- RT Bank [ ]
- Dominant:
  - Paved [ ]
  - Bare ground [ ]
  - Turf/lawn [ ]
  - Tall grass [ ]
  - Shrub/scrub [ ]
  - Trees [ ]
  - Other [ ]
- LT Bank [ ]
- RT Bank [ ]
- Land Cover:
  - LT Bank [ ]
  - RT Bank [ ]
- Invasive Plants:
  - None [ ]
  - Rare [ ]
  - Partial coverage [ ]
  - Extensive coverage [ ]
  - Unknown [ ]
- Stream Shade Provided:
  - None [ ]
  - Partial [ ]
  - Full [ ]
- Wetlands Present? [ ] No [ ] Yes [ ] Unknown [ ]

**Potential Restoration Candidate**
- Active reforestation [ ]
- Greenway design [ ]
- Natural regeneration [ ]
- Invasive removal [ ]
- Other: ___

**Restorable Area**
- LT Bank [ ]
- RT [ ]
- Length (ft): 5
- Width (ft): 5

**Reforestation Potential**
(Circle #)

<table>
<thead>
<tr>
<th>Impact Area on Public Land</th>
<th>Impact Area on Private Land</th>
<th>Impact Area on Private Land</th>
</tr>
</thead>
<tbody>
<tr>
<td>Where the Riparian Area does not appear to be used for any specific purpose, plenty of area available for planting</td>
<td>Where the riparian area is presently used for a specific purpose, available area for planting adequate</td>
<td>Where road, building, or other feature significantly limits available area for planting</td>
</tr>
</tbody>
</table>

**Potential Conflicts with Reforestation**
- Widespread invasive plants [ ]
- Potential contamination [ ]
- Lack of sun [ ]
- Poor/unsafe access to site [ ]
- Existing impervious cover [ ]
- Severe animal impacts (deer, beaver) [ ]
- Other: ___

**Notes:**
1. Left Bank (LB) start 41°46'23.8" / 72°48'13" due to maintained lawn, parking lots, invasive plants, chunks of concrete, trash
2. But at end point 41°46'28" / 72°48'08.5" there is impact to the Right Bank (RB) due to a retaining wall.
<table>
<thead>
<tr>
<th>WATERSHED/SUBSHED: N60</th>
<th>DATE: 11/24/09</th>
<th>ASSESSED BY: E.M. E5</th>
</tr>
</thead>
<tbody>
<tr>
<td>SURVEY REACH ID: 15</td>
<td>TIME: 1:30 PM</td>
<td>PHOTO ID: (Camera-Pic #) P82400/#50</td>
</tr>
<tr>
<td>SITE ID (Condition #): OT-A</td>
<td>LAT 41°46'04&quot; LON 72°42'01&quot;</td>
<td>LMK</td>
</tr>
<tr>
<td>BANK: □ LT □ RT □ Head</td>
<td>TYPE: □ Closed pipe</td>
<td>MATERIAL: □ Concrete □ Metal □ PVC/Plastic □ Brick □ Other:</td>
</tr>
<tr>
<td>□ Flowing Only</td>
<td>SHAPE: □ Single □ Circular □ Double □ Elliptical □ Triple □ Other:</td>
<td></td>
</tr>
<tr>
<td>□ Open channel</td>
<td>DIMENSIONS: Diameter: 30&quot; (in)</td>
<td>□ Trapezoid □ Parabolic □ Other:</td>
</tr>
<tr>
<td>□ Concrete □ Earthen □ Other:</td>
<td>□ Depth: (in)</td>
<td>Width (Top): (in) &quot; Bottom: (in)</td>
</tr>
<tr>
<td>□ Other:</td>
<td>NOT APPLICABLE</td>
<td></td>
</tr>
<tr>
<td>CONDITION: □ None □ Chip/Cracked □ Peeling Paint □ Corrosion □ Other:</td>
<td>DEPOSITS/STAINS: □ None □ Oily □ Flow Line □ Paint □ Other:</td>
<td></td>
</tr>
<tr>
<td>ODOR: □ Gas □ Sewage □ Rancid/Sour □ Sulfide □ Other:</td>
<td>VEGGIE DENSITY: □ None □ Normal □ Inhibited □ Excessive □ Other:</td>
<td></td>
</tr>
<tr>
<td>□ Other:</td>
<td>PIPE BENTHIC GROWTH: □ None</td>
<td></td>
</tr>
<tr>
<td>PIPING QUALITY: □ Brown □ Orange □ Green □ Other:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ Good □ Odors □ Colors □ Oils □ Suds □ Algae □ Floatables □ Other:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ Excess Trash (paper/plastic bags) □ Dumping (bulk) □ Excessive Sedimentation</td>
<td>□ Needs Regular Maintenance □ Bank Erosion □ Other:</td>
<td></td>
</tr>
<tr>
<td>□ Excess Trash (paper/plastic bags) □ Dumping (bulk) □ Other:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POTENTIAL RESTORATION CANDIDATE □ Discharge investigation □ Stream daylighting □ Local stream repair/outfall stabilization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ no □ Storm water retrofit □ Other:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If yes for daylighting:
Length of vegetative cover from outfall: ______ ft Type of existing vegetation: ___________________ Slope: ________°

If yes for stormwater:
Is stormwater currently controlled? □ Yes □ No □ Not investigated
Land Use description: ___________________________
Area available:

OUTFALL SEVERITY: (circle #) Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in the stream, discharge appears to be having a significant impact downstream. Small discharge; flow mostly clear and odorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor/localized. Outfall does not have dry weather discharge, staining, or appearance of causing any erosion problems.

5 4 3 2 1

REPORTED TO AUTHORITIES: □ YES □ NO

SKETCH/NOTES:
Storm Water Outfalls

WATERSHED/SUBSHED: NBP
SURVEY REACH ID: 5
SITE ID (Condition): OT: 0
LAT 41° 45' 26" LONG 72° 42' 09" LMK ___ GPS: (Unit ID)

BANK:
- LT
- RT
- Head

FLOW:
- None
- Trickle
- Moderate
- Substantial
- Other:

Type:
- Closed pipe

Material:
- Concrete
- Metal
- PVC/Plastic
- Brick
- Other:

Shape:
- Single

Dimensions:
- Diameter: __ in

Submerged:
- No
- Partially
- Fully

Depth: ___ in
Width (Top): ____ in
Width (Bottom): ____ in

Condition:
- No
- Chip/Cracked
- Peeling Paint
- Corrosion
- Other:

Condition:
- No
- Gas
- Sewage
- Rancid/Sour
- Sulfide
- Other:

Vegetation:
- None
- Only
- Flow Line
- Paint
- Other:

Vegetation:
- None
- Normal
- Inhibited
- Excessive
- Other:

Pipe Benthic Growth:
- None

[Options for flow only] (circle)
- Clear
- Brown
- Grey
- Yellow
- Green
- Orange
- Red
- Other:

Turbidity:
- None
- Slight Cloudiness
- Cloudy
- Opaque

Floatables:
- None
- Sewage (toilet paper, etc.)
- Petroleum (oil sheen)
- Other:

Other Concerns:
- Excess Trash (paper/plastic bags)
- Dumping (bulk)
- Excessive Sedimentation
- Needs Regular Maintenance
- Bank Erosion
- Other:

Potential Restoration Candidate:
- Discharge investigation
- Stream daylighting
- Local stream repair/outfall stabilization
- Storm water retrofit
- Other:

If yes for daylighting:
Length of vegetative cover from outfall: ______ ft
Type of existing vegetation: ___________________ Slope: ______

If yes for stormwater:
Is stormwater currently controlled?
- Yes
- No
- Not investigated

Land Use Description:

Area available:

Outfall Severity:
(circle #)

Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.

Small discharge; flow mostly clear and odorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor/localized.

Outfall does not have dry weather discharge; staining; or appearance of causing any erosion problems.

Sketch/Notes: Bridge concrete headwall + pump pipe. Swamp knotweed here.

Reported to Authorities: [ ] Yes [ ] No
Storm Water Outfalls

WATERSHED/SUBSHED: NBP

SURVEY REACH ID: 15

DATE: 11/34/09

PHOTO ID: (Camera-Pic #) PG3400/# 51

SITE ID (Condition #): OT - 0

LAT 41° 46' 28"  LONG 72° 42' 08.5"

LMK

GPS: (Unit ID)

BANK:
- LT
- RT
- Head

FLOW:
- None
- Trickle
- Moderate
- Substantial
- Other:

TYPE:
- Closed pipe
- Open channel

MATERIAL:
- Concrete
- Metal
- PVC/Plastic
- Brick
- Other:

SHAPE:
- Circular
- Double
- Elliptical
- Triple
- Other:

DIMENSIONS:
- Diameter: 24 (in)
- Width (Top): 24 (in)
- Depth: 24 (in)

SUBMERGED:
- No
- Partially
- Fully

NOT APPLICABLE

CONDITION:
- None
- Chip/Cracked
- Peeling Paint
- Corrosion
- Other:

ODOR:
- No Gas
- Sewage
- Rancid/Sour
- Sulfide
- Other:

DEPOSITS/STAINS:
- None
- Oily
- Flow Line
- Paint
- Other:

VEGGIE DENSITY:
- None
- Normal
- Inhibited
- Excessive
- Other:

PIPE BENTHIC GROWTH:
- None
- Brown
- Orange
- Green
- Other:

POOL QUALITY:
- No pool
- Good
- Odors
- Colors
- Oils
- Suds
- Algae
- Floatables
- Other:

FINDINGS:

COLOR:
- Clear
- Brown
- Grey
- Yellow
- Green
- Red
- Other:

TURBIDITY:
- None
- Slight Cloudiness
- Cloudy
- Opaque

FLOATABLES:
- None
- Sewage (toilet paper, etc.)
- Petroleum (oil sheen)
- Other:

OTHER CONCERNS:
- Excess Trash (paper/plastic bags)
- Dumping (bulk)
- Excessive Sedimentation
- Needs Regular Maintenance
- Bank Erosion
- Other:

POTENTIAL RESTORATION CANDIDATE:
- Discharge investigation
- Stream daylighting
- Local stream repair/outfall stabilization
- Storm water retrofit
- Other:

If yes for daylighting:
- Length of vegetative cover from outfall: 
- Type of existing vegetation:
- Slope:

If yes for stormwater:
- Is stormwater currently controlled?
- Land Use description:
- Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.
- Small discharge; flow mostly clear and odorless. If the discharge has a color and/or odor; the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor/localized.
- Outfall does not have dry weather discharge; staining; or appearance of causing any erosion problems.

OUTFALL SEVERITY:

CIRCUIT #

HEAVY DISCHARGE WITH A DISTINCT COLOR AND/OR A STRONG SMELL. THE AMOUNT OF DISCHARGE IS SIGNIFICANT COMPARED TO THE AMOUNT OF NORMAL FLOW IN RECEIVING STREAM; DISCHARGE APPEARS TO BE HAVING A SIGNIFICANT IMPACT DOWNSTREAM.

SMALL DISCHARGE; FLOW MOSTLY CLEAR AND ODORLESS. IF THE DISCHARGE HAS A COLOR AND/OR ODOR; THE AMOUNT OF DISCHARGE IS VERY SMALL COMPARED TO THE STREAM'S BASE FLOW AND ANY IMPACT APPEARS TO BE MINOR/LocalIZED.

OUTFALL DOES NOT HAVE DRY WEATHER DISCHARGE; STAINING; OR APPEARANCE OF CAUSING ANY EROSION PROBLEMS.

REPORTED TO AUTHORITIES: Yes No

SKETCH/NOTES: near retaining wall
Storm Water Outfalls

**Watershed/Subshed:** NE9  
**Survey Reach ID:** 15  
**Site ID/Condition #:** OT: 0  
**Date:** 11/24/09  
**Assessed By:**  

**Photo ID:** (Camera-Pic #) None  
**GPS (Unit ID):** 

**Bank:**  
- □ LT  
- □ RT  
- □ Head  

**Flow:**  
- □ None  
- □ Trickle  
- □ Moderate  
- □ Substantial  
- □ Other:  

**Condition:**  
- □ None  
- □ Chip/Cracked  
- □ Peeling Paint  
- □ Corrosion  
- □ Other:  

**Odor:**  
- □ Gas  
- □ Sewage  
- □ Rancid/Sour  
- □ Sulfide  
- □ Other:  

**Deposits/Stains:**  
- □ None  
- □ Oily  
- □ Flow Line  
- □ Paint  
- □ Other:  

**Vegetation Density:**  
- □ None  
- □ Normal  
- □ Inhibited  
- □ Excessive  
- □ Other:  

**Pipe Benthic Growth:**  
- □ None  
- □ Brown  
- □ Orange  
- □ Green  
- □ Other:  

**Pool Quality:**  
- □ No pool  
- □ Good  
- □ Odors  
- □ Colors  
- □ Oils  
- □ Suds  
- □ Algae  
- □ Floatables  
- □ Other:  

**Color:**  
- □ Clear  
- □ Brown  
- □ Grey  
- □ Yellow  
- □ Green  
- □ Orange  
- □ Red  
- □ Other:  

**Turbidity:**  
- □ None  
- □ Slight Cloudiness  
- □ Cloudy  
- □ Opaque  

**Floatables:**  
- □ None  
- □ Sewage (toilet paper, etc.)  
- □ Petroleum (oil sheen)  
- □ Other:  

**Other Concerns:**  
- □ Excess Trash (paper/plastic bags)  
- □ Dumping (bulk)  
- □ Excessive Sedimentation  
- □ Needs Regular Maintenance  
- □ Bank Erosion  
- □ Other:  

---

**Potential Restoration Candidate:**  
- □ Discharge investigation  
- □ Storm daylighting  
- □ Local stream repair/outfall stabilization  
- □ Storm water retrofit  
- □ Other:  

If yes for daylighting:  
- Length of vegetative cover from outfall: ________ ft  
- Type of existing vegetation: ____________________  
- Slope: __________  

If yes for stormwater:  
- Is stormwater currently controlled?  
- □ Yes  
- □ No  
- □ Not investigated  
- Land Use description: ___________________________  
- Area available: ________________________________  

**Outfall Severity:**  
- (Circle #)  

Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.  

Small discharge, flow mostly clear and odorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor / localized.  

Outfall does not have dry weather discharge, staining, or appearance of causing any erosion problems.  

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**Sketch/Notes:** adjacent to a parking lot  

---

**Reported to Authorities:** □ Yes  
□ No
**WATERSHED/SUBSHED:** NBP  
**SURVEY REACH ID:** 15  
**SITE ID (Condition #):** OT: E  
**DATE:** 11/24/09  
**PHOTO ID: (Camera Pic #):** 902400# 53  
**ASSESSED BY:** CMN 166

**BANK:**  
- LT  
- RT  
- Head

**FLOW:**  
- None  
- Trickle  
- Moderate  
- Substantial  
- Other: Open pipe

**TYPE:**  
- Closed pipe

**MATERIAL:**  
- Concrete  
- Metal  
- PVC/Plastic  
- Brick  
- Other: Other

**SHAPE:**  
- Single
  - Circular  
  - Double  
  - Elliptical  
  - Tripe  
  - Other: Other

**DIMENSIONS:**  
- Diameter: 54 (in)
  - Width (Top):  
  - Depth:  
  - (Bottom):  

**CONDITION:**  
- None  
- Chip/Cracked  
- Peeling Paint  
- Corrosion  
- Other: Other

**ODOR:**  
- None  
- Gas  
- Sewage  
- Rancid/Sour  
- Sulfide  
- Other: Other

**DEPOSITS/STAINS:**  
- None  
- Oily  
- Flow Line  
- Paint  
- Other: Other

**VEGGIE DENSITY:**  
- None  
- Normal  
- Inhibited  
- Excessive  
- Other: Other

**PIPE BENTHIC GROWTH:**  
- None  
- Brown  
- Orange  
- Green  
- Other: Other

**POOL QUALITY:**  
- None  
- No pool  
- Good  
- Odors  
- Colors  
- Oils  
- Suds  
- Algae  
- Floatables  
- Other: Other

**FOR FLOWING ONLY**  
**COLOR:**  
- Clear  
- Brown  
- Grey  
- Yellow  
- Green  
- Red  
- Other: Other

**TURBIDITY:**  
- None  
- Slight Cloudiness  
- Cloudy  
- Opaque: Other

**FLOATABLES:**  
- None  
- Sewage (toilet paper, etc.)  
- Petroleum (oil sheen)  
- Other: Other

**OTHER CONCERNS:**  
- Excess Trash (paper/plastic bags)  
- Dumping (bulk)  
- Excessive Sedimentation  
- Needs Regular Maintenance  
- Bank Erosion  
- Other: Other

**POTENTIAL RESTORATION CANDIDATE**  
- Discharge investigation  
- Storm water retrofit  
- Other: Other

**If yes for daylighting:**  
- Length of vegetative cover from outfall: ________ ft  
- Type of existing vegetation: ___________________________  
- Slope: ________

**If yes for stormwater:**  
- Is stormwater currently controlled?  
- Yes  
- No  
- Not investigated  
- Area available:  

**OUTFALL SEVERITY:**  
- Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.  
- Small discharge, flow mostly clear and odorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor/localized.  
- Outfall does not have dry weather discharge, staining, or appearance of causing any erosion problems.

**SKETCH/NOTES:** Outflow is surrounded by rip-rap - however, there was no flow on 11/24/09.

**REPORTED TO AUTHORITIES:**  
- Yes  
- No
Storm Water Outfalls

**Watershed/Subshed:** N2B

**Survey Reach ID:** 15

**Site ID (Condition #):** OT-

**Date:** 1/24/09  
**Photo ID:** (Camera-Pic #) P8340 #55

**Bank:** LT  
**Flow:** None

**Condition:** None

**Erosion Type:**
- None
- Chip/Cracked
- Peeling Paint
- Corrosion
- Other: Scour

**Type:** Closed pipe  
**Type of Material:** Concrete  
**Type of Deposit:** None

**Condition:** None

**Color:** Clear  
**Turbidity:** None

**Other Concerns:** Needs Regular Maintenance

**Potential Restoration Candidate:** Discharge investigation  
**If yes for daylighting:**
- Length of vegetative cover from outfall: ______ ft
- Type of existing vegetation: ______
- Slope: ______

**If yes for stormwater:**
- Is stormwater currently controlled? Yes

**Outfall Severity:**
- Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.
- Small discharge, flow mostly clear and odorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor/localized.

**Sketch/Notes:**
- Steep grade, some scour (see photo)

**Reported to Authorities:** Yes  

---

**Bank:** LT  
**Flow:** None

**Condition:** None

**Color:** Clear  
**Turbidity:** None

**Other Concerns:** Needs Regular Maintenance

**Potential Restoration Candidate:** Discharge investigation  
**If yes for daylighting:**
- Length of vegetative cover from outfall: ______ ft
- Type of existing vegetation: ______
- Slope: ______

**If yes for stormwater:**
- Is stormwater currently controlled? Yes

**Outfall Severity:**
- Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.
- Small discharge, flow mostly clear and odorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor/localized.

**Sketch/Notes:**
- Steep grade, some scour (see photo)

**Reported to Authorities:** Yes
### Storm Water Outfalls

**Watershed/Subshed:** NBP  
**Survey Reach ID:** 15  
**Site ID (Condition #):** OT 6  
**Date:** 1/24/09  
**Assessed By:** CM180  
**Photo ID:** (Camera-Pic #)  
**Survey Reach ID:** 15  
**Time:** AM/PM  
**Photo ID:** (Camera-Pic #)  
**Lat:** 41° 46' 34.9"  
**Long:** 72° 44' 10.4"  
**LMK:**  
**GPS:** (Unit ID)  

#### Bank:
- ALT  
- RT  
- Head  

#### Flow:
- None  
- Trickle  
- Moderate  
- Substantial  
- Other:  

#### Type:
- Closed pipe  
- Open channel  

#### Material:
- Concrete  
- PVC/Plastic  
- Other:  

#### Shape:
- Single  
- Circular  
- Parabolic  
- Trapezoid  
- Other:  

#### Dimensions:
- Diameter: 12" (in)  
- Width (Top):  
- (Bottom):  

#### Submerged:
- No  
- Partially  
- Fully  

#### Condition:
- None  
- Chip/Cracked  
- Peeling Paint  
- Corrosion  
- Other:  

#### Odor:
- None  
- Gas  
- Sewage  
- Rancid/Sour  
- Sulfide  
- Other:  

#### Deposits/Stains:
- None  
- Oil  
- Flow Line  
- Paint  
- Other:  

#### Veggie Density:
- None  
- Normal  
- Inhibited  
- Excessive  
- Other:  

#### Pipe Benthic Growth:
- None  
- Brown  
- Orange  
- Green  
- Other:  

#### Pool Quality:
- No pool  
- Good  
- Odors  
- Colors  
- Oils  
- Suds  
- Algae  
- Floatables  
- Other:  

#### Floating Only Concerns:
- Excess Trash (paper/plastic bags)  
- Dumping (bulk)  
- Excessive Sedimentation  
- Needs Regular Maintenance  
- Bank Erosion  
- Other:  

#### Potential Restoration Candidate:
- Discharge investigation  
- Stream daylighting  
- Local stream repair/outfall stabilization  
- Storm water retrofit  
- Other:  

**If yes for daylighting:**
- Length of vegetative cover from outfall:  
- Type of existing vegetation:  
- Slope:  

**If yes for stormwater:**
- Is stormwater currently controlled?  
- Land Use description:  
- Area available:  

#### Outfall Severity:

<table>
<thead>
<tr>
<th>(circle #)</th>
<th>Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.</th>
<th>Small discharge; flow mostly clear and odorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor/localized.</th>
<th>Outfall does not have dry weather discharge, staining, or appearance of causing any erosion problems.</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

#### Sketch/Notes:

**Reported to Authorities:** YES NO
### Stream Crossing Information

- **Watershed/Subshed:** NEP
- **Survey Reach ID:** 15
- **Time:** 10:25 AM
- **Photo ID:** Camera Pic #18200, #49
- **Site ID:** (Condition #) SC-15c
- **Lat:** 41° 46' 22.9" N
- **Long:** 42° 12' 19.8" W
- **LMK:** GPS (Unit ID)

#### Type of Crossings
- **Road Crossing**
- **Railroad Crossing**
- **Manmade Dam**
- **Beaver Dam**
- **Geological Formation**
- **Other:**

#### Shape and Barrel Information
- **Shape:**
  - Arch
  - Box
  - Elliptical
  - Circular
  - Other:
- **# Barrels:**
  - Single
  - Double
  - Triple
  - Other:
- **Material:**
  - Concrete
  - Metal
  - Other:
- **Alignment:**
  - Flow-aligned
  - Not flow-aligned
  - Do not know
- **Dimensions:** (if variable, sketch)
  - Barrel diameter: ______ (ft)
  - Height: ______ (ft)
  - Culvert length: ______ (ft)
  - Width: ______ (ft)
  - Roadway elevation: ______ (ft)

#### Potential Restoration Candidate
- **Fish barrier removal**
- **Culvert repair/replacement**
- **Upstream storage retrofit**
- **Local stream repair**
- **Other:**

#### Is SC Acting as Grade Control
- **No**
- **Yes**
- **Unknown**

#### Extent of Physical Blockage
- **Total**
- **Partial**
- **Temporary**
- **Unknown**

#### Blockage Severity
- **If yes for fish barrier**
  - **Cause:**
    - Drop too high
    - Flow too shallow
    - Other:
  - **Water Drop:** ______ (in)
  - **Water Depth:** ______ (in)
- **A structure such as a dam or road culvert on a 3rd order or greater stream blocking the upstream movement of anomalous fish; no fish passage device present.**
- **A total fish blockage on a tributary that would isolate a significant reach of stream, or partial blockage that may interfere with the migration of anomalous fish.**
- **A temporary barrier such as a beaver dam or a blockage at the very head of a stream with very little viable fish habitat above it; natural barriers such as waterfalls.**

- **Reported to authorities:**
  - **YES**
  - **No**
Reach Level Assessment

Survey Reach ID: 116
WTRSH/Subsid: North Branch Park
Date: 11/24/01
Assessed by: CMW + 860

Rain in last 24 hours: [ ] Heavy rain [ ] Steady rain
[ ] None [ ] Intermittent [ ] Trace
Surrounding land use: [ ] Industrial [ ] Commercial
[ ] Golf course [ ] Park [ ] Urban/Residential [ ] Suburban/Res
[ ] Crop [ ] Pasture [ ] Other: Medical center

AVERAGE CONDITIONS (check applicable)

Base flow as %: [ ] 0-25% [ ] 50%-75% [ ] 75-100%
Channel width: [ ] 25-50% [ ] 75-100%
Dominant substrate: But mostly riprap
[ ] Silty/clay (fine or slick) [ ] Cobble (2.5-10"
[ ] Sand (gritty) [ ] Boulder (>10"
[ ] Gravel (0.1-2.5") [ ] Bed rock
Water clarity: [ ] Clear [ ] Turbid (suspended matter)
[ ] Stained (clear, naturally colored) [ ] Opaque (milky)
[ ] Other (chemicals, dyes)
Aquatic plants in stream: Attached: [ ] none [ ] some [ ] lots
Floating: [ ] none [ ] some [ ] lots
Wildlife in or around stream: [ ] Fish [ ] Beaver [ ] Deer
[ ] Snails [ ] Other: Wood ducks
Stream shading: [ ] Mostly shaded (>75% coverage)
[ ] Halfway (50%)
[ ] Partially shaded (25%)
[ ] Unshaded (< 25%)

Channel dynamics: [ ] Downcutting [ ] Bed scour
[ ] Widening [ ] Bank failure
[ ] Headcutting [ ] Bank scour
[ ] Aggrading [ ] Slope failure
[ ] Sed. deposition [ ] Channelized

Channel dimensions: Height: LT bank ___ ft.
RT bank ___ ft.

Reach accessibility: Good: Open area in public ownership, sufficient room to stockpile materials, easy stream channel access for heavy equipment using existing roads or trails.
Fair: Forested or developed area adjacent to stream. Access requires tree removal or impact to landscaped areas. Stockpile areas small or distant from stream.
Difficult: Must cross wetland, steep slope, or sensitive areas to get to stream. Few areas to stockpile available and/or located a great distance from stream. Specialized heavy equipment required.

REACH SKETCH AND SITE IMPACT TRACKING

Simple planar sketch of survey reach. Track locations and IDs for all site impacts within the survey reach (OT, ER, IB, SC, UT, TR, MI) as well as any additional features deemed appropriate. Indicate direction of flow.

Notes: (biggest problem you see in survey reach)

Impacted buffer + parking lots adjacent to bank, rap - rap many almost entire reaches, wash banks, residential, medium sized yard waste, dumping, snow plowing, trash debris, invasive species (especially ivy, mulch). Unstable channel related to impacted buffer + stream water inputs.

Reported to authorities: [ ] Yes [ ] No
## OVERALL STREAM CONDITION

<table>
<thead>
<tr>
<th>In-stream Habitat (May modify criteria based on appropriate habitat regime)</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greater than 70% of substrate favorable for optimal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).</td>
<td>Greater than 70% of substrate favorable for optimal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).</td>
<td>40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).</td>
<td>20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.</td>
<td>Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vegetative Protection (score each bank; determine sides by facing downstream)</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.</td>
<td>More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.</td>
<td>70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stature height remaining.</td>
<td>50-70% of the streambank surfaces covered by native vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stature height remaining.</td>
<td>Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stature height.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bank Erosion (facing downstream)</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems.</td>
<td>Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems.</td>
<td>Grade and width stable; isolated areas of bank failure/erosion; likely caused by a pipe outlet, lack of necessary riparian vegetation or adjacent use.</td>
<td>Past downcutting evident, active stream widening, banks actively eroding at a moderate rate; no threat to property or infrastructure.</td>
<td>Active downcutting; tall banks on both sides of the stream eroding at a fast rate; erosion contributing significant amount of sediment to stream; obvious threat to property or infrastructure.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Floodplain Connection</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched.</td>
<td>High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched.</td>
<td></td>
</tr>
</tbody>
</table>

## OVERALL BUFFER AND FLOODPLAIN CONDITION

<table>
<thead>
<tr>
<th>Vegetated Buffer Width</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width of buffer zone &gt;50 feet; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, crops) have not impacted zone.</td>
<td>Width of buffer zone &gt;50 feet; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, crops) have not impacted zone.</td>
<td>Width of buffer zone 25-50 feet; human activities have impacted zone only minimally.</td>
<td>Width of buffer zone 10-25 feet; human activities have impacted zone a great deal.</td>
<td>Width of buffer zone &lt;10 feet; little or no riparian vegetation due to human activities.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Floodplain Vegetation</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Predominant floodplain vegetation type is mature forest.</td>
<td>Predominant floodplain vegetation type is mature forest.</td>
<td>Predominant floodplain vegetation type is young forest.</td>
<td>Predominant floodplain vegetation type is shrub or old field.</td>
<td>Predominant floodplain vegetation type is turf or crop land.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Floodplain Habitat</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Even mix of wetland and non-wetland habitats, evidence of standing/ponded water.</td>
<td>Even mix of wetland and non-wetland habitats, evidence of standing/ponded water.</td>
<td>Even mix of wetland and non-wetland habitats, evidence of standing/ponded water.</td>
<td>Either all wetland or all non-wetland habitat, evidence of standing/ponded water.</td>
<td>Either all wetland or all non-wetland habitat, evidence of standing/ponded water.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Floodplain Encroachment</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>No evidence of floodplain encroachment in the form of fill material, land development, or manmade structures.</td>
<td>No evidence of floodplain encroachment in the form of fill material, land development, or manmade structures.</td>
<td>Minor floodplain encroachment in the form of fill material, land development, or manmade structures, but not effecting floodplain function</td>
<td>Moderate floodplain encroachment in the form of filling, land development, or manmade structures; some effect on floodplain function</td>
<td>Significant floodplain encroachment (i.e. fill material, land development, or man-made structures); Significant effect on floodplain function</td>
</tr>
</tbody>
</table>

Sub Total In-stream: 31 / 80  +  Buffer/Floodplain: 20 / 80 = Total Survey Reach 51 / 160
**IMPACTED BANK:**
- LT
- RT
- Both

**REASON INADEQUATE:**
- Lack of vegetation
- Too narrow
- Widespread invasive plants
- Recently planted
- Other: see notes below

**LAND USE:**
- Private
- Institutional
- Golf Course
- Park
- Other Public

(Facing downstream)
- LT Bank
- RT Bank

**DOMINANT COVER:**
- Paved
- Bare ground
- Turf/lawn
- Tall grass
- Shrub/scrub
- Trees
- Other

**LAND COVER:**
- LT Bank
- RT Bank

**INVASIVE PLANTS:**
- None
- Rare
- Partial coverage
- Extensive coverage
- Unknown

**STREAM SHADE PROVIDED:**
- None
- Partial
- Full

**WETLANDS PRESENT?**
- No
- Yes
- Unknown

**POTENTIAL RESTORATION CANDIDATE**
- Active reforestation
- Greenway design
- Natural regeneration
- Invasives removal
- Other:

**RESTORABLE AREA**
- LT Bank
- RT

**LENGTH (ft):**

**WIDTH (ft):**

**REFORESTATION POTENTIAL:**
- (Circle #)

**IMPACTED AREA ON PUBLIC LAND**
- Where the riparian area does not appear to be used for any specific purpose; plenty of area available for planting

**IMPACTED AREA ON OTHER PUBLIC OR PRIVATE LAND**
- That is presently used for a specific purpose; available area for planting adequate

**IMPACTED AREA ON PRIVATE LAND**
- Where road; building encroachment or other feature significantly limits available area for planting

**POTENTIAL CONFLICTS WITH REFORESTATION**
- Widespread invasive plants
- Potential contamination
- Lack of sun
- Poor/unsafe access to site
- Existing impervious cover
- Severe animal impacts (deer, beaver)
- Other:

**NOTES:**
1. Upstream of culvert on the RB there is a parking lot on the RB; there is rip-rap with screen tied in to retaining wall, + loose rip-rap. Both banks ~ 30' upstream of culvert are covered with rip-rap.
2. Residential lawn adjacent to RB + parking lots adjacent to RB; leaf/yard waste dumping.
3. Bank failure on RB (see photo 40). 41° 46' 05.9" / 72° 42' 44.1".

→ Very good candidate for restoration.
### Impacted Buffer (IB)

**Watershed/Subshed:** NBP  
**Survey Reach:** 10  
**Date:** 11/24/09  
**Assessed By:** CMW/86

**Site ID:** (Condition #)  
**Start Lat:** 41°46'11"  
**End Lat:** 41°46'12"

**Land Use:**  
- Private  
- Institutional  
- Golf Course  
- Park  
- Other Public  
- LT Bank  
- RT Bank

**Dominant Land Cover:**  
- Paved  
- Bare ground  
- Turf/lawn  
- Tall grass  
- Shrub/scrub  
- Trees  
- Other

**Invasive Plants:**  
- None  
- Rare  
- Partial coverage  
- Extensive coverage  
- Unknown  
- None  
- Partial  
- Full  
- Wetlands Present?  
- No  
- Yes  
- Unknown

**Potential Restoration Candidate:**  
- Active reforestation  
- Greenway design  
- Natural regeneration  
- Invasives removal  
- Other:

**Restorable Area**  
- LT Bank  
- RT

**Reforestation Potential:**  
- Circle #

<table>
<thead>
<tr>
<th>Impacted area on public land where the riparian area does not appear to be used for any specific purpose; plenty of area available for planting</th>
<th>Impacted area on either public or private land that is presently used for a specific purpose; available area for planting</th>
<th>Impacted area on private land where road; building encroachment or other feature significantly limits available area for planting</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

**Potential Conflicts with Reforestation:**  
- Widespread invasive plants  
- Potential contamination  
- Lack of sun  
- Poor unsafe access to site  
- Existing impervious cover  
- Severe animal impacts (deer, beaver)  
- Other:

**Notes:**  
- Impacts to both banks associated with rip-rap covered with wire mesh  
- River bank erosion just upstream of end GPS mark.
WATERSHED/SUBSHED: NBP

SURVEY REACH: 16

SITE ID: (Condition #) IB-

START LAT 41° 04' 06.8" N LONG 72° 04' 12.5" W LMK___

END LAT 41° 04' 09.1" N LONG 72° 04' 13.8" W LMK___

IMPACTED BANK: ☑ LT ☑ RT ☑ Both

REASON INADEQUATE: ☑ Lack of vegetation ☑ Too narrow ☑ Widespread invasive plants
☐ Recently planted ☑ Other: see below

LAND USE:
(Facing downstream) LT Bank
☐ Private ☐ Institutional ☐ Golf Course ☐ Park ☐ Other Public
☐ RT Bank

DOMINANT LAND COVER:
☐ Paved ☐ Bare ground ☐ Turf/lawn ☐ Tall grass ☐ Shrub/scrub ☐ Trees ☐ Other

☐ LT Bank

☐ RT Bank

INVASIVE PLANTS:
☐ None ☑ Rare ☐ Partial coverage ☑ Extensive coverage ☐ unknown

STREAM SHADE PROVIDED?
☐ None ☐ Partial ☑ Full

WETLANDS PRESENT?
☐ No ☑ Yes ☐ Unknown

POTENTIAL RESTORATION CANDIDATE
☐ Active reforestation ☐ Greenway design ☑ Natural regeneration ☑ Invasives removal
☐ no ☑ Other:

RESTORABLE AREA
LT BANK ☑ RT

Length (ft):

Width (ft):

REFORESTATION POTENTIAL:
(Circle #)

Impacted area on public land where the riparian area does not appear to be used for any specific purpose; plenty of area available for planting

Impacted area on either public or private land that is presently used for a specific purpose; available area for planting adequate

Impacted area on private land where road/encroachment or other feature significantly limits available area for planting

POTENTIAL CONFLICTS WITH REFORESTATION
☐ Poor/unsafe access to site ☑ Existing impervious cover ☑ Widespread invasive plants ☐ Potential contamination ☐ Lack of sun

Severe animal impacts (deer, beaver) ☐ Other:

NOTES:
1) Rip-rap along UB
2) Leak dumping an UB adjacent to river + possible snow piling (parking lot); possible salt deposits?
**IMPACTED BUFFER**

**WATERSHED/SUBSHED:** NBP

**SURVEY REACH:** 16

**SITE ID:** (Condition #) IB

**START LAT**: 41° 46' 11" **LONG**: 72° 40' 14.4" **LMK**

**END LAT**: 41° 46' 12" **LONG**: 72° 40' 14.8" **LMK**

**IMPACTED BANK:** □ LT □ RT □ Both

**REASON INADEQUATE:** □ Lack of vegetation □ Too narrow □ Widespread invasive plants
□ Recently planted □ Other: **RIP-RAP (poor wildlife value)**

**LAND USE:**
- Private
- Institutional
- Golf Course
- Park
- Other Public:
- RT Bank

**DOMINANT LAND COVER:**
- Paved
- Bare ground
- Turf/lawn
- Tall grass
- Shrub/scrub
- Trees
- Other:
- LT Bank

**INVASIVE PLANTS:** □ None □ Rare □ Partial coverage □ Extensive coverage □ unknown

**STREAM SHADE PROVIDED?** □ None □ Partial □ Full

**WETLANDS PRESENT?** □ No □ Yes □ Unknown

**POTENTIAL RESTORATION CANDIDATE** □ Active reforestation □ Greenway design □ Natural regeneration □ Invasives removal
□ Other:

**RESTORABLE AREA**

<table>
<thead>
<tr>
<th>LT BANK</th>
<th>RT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length (ft):</td>
<td></td>
</tr>
<tr>
<td>Width (ft):</td>
<td></td>
</tr>
</tbody>
</table>

**REFORESTATION POTENTIAL:** (Circle #)

- Impacted area on public land where the riparian area does not appear to be used for any specific purpose; plenty of area available for planting
- Impacted area on either public or private land that is presently used for a specific purpose; available area for planting adequate
- Impacted area on private land where road, building encroachment or other feature significantly limits available area for planting

**POTENTIAL CONFLICTS WITH REFORESTATION**

□ Widespread invasive plants □ Potential contamination □ Lack of sun
□ Poor/unsafe access to site □ Existing impervious cover □ Severe animal impacts (deer, beaver) □ Other:

**NOTES:**
1. **RIP-RAP on both banks**
2. **MUD & BANK EROSION on both banks**
**Impacted Buffer**

<table>
<thead>
<tr>
<th>Site ID: (Condition #)</th>
<th>Start Lat: 41° 46' 14&quot;</th>
<th>Long: 72° 04' 15.4&quot;</th>
<th>LMK</th>
<th>GPS: (Unit ID)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IB- E</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Impact Bank:</th>
<th>Reason Inadequate:</th>
<th>Lack of vegetation</th>
<th>Too narrow</th>
<th>Widespread invasive plants</th>
<th>Recently planted</th>
<th>Other:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Land Use:</th>
<th>Private</th>
<th>Institutional</th>
<th>Golf Course</th>
<th>Park</th>
<th>Other Public</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facing downstream</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LT Bank</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RT Bank</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dominant</th>
<th>Paved</th>
<th>Bare ground</th>
<th>Turf/lawn</th>
<th>Tall grass</th>
<th>Shrub/scrub</th>
<th>Trees</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>LT Bank</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RT Bank</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Invasive Plants:</th>
<th>None</th>
<th>Rare</th>
<th>Partial coverage</th>
<th>Extensive coverage</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td>Unknown</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stream Shade Provided?</th>
<th>None</th>
<th>Partial</th>
<th>Full</th>
<th>Wetlands Present?</th>
<th>No</th>
<th>Yes</th>
<th>Unknown</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Potential Restoration Candidate</th>
<th>No</th>
<th>Yes</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active reforestation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greenway design</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural regeneration</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Invasives removal</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Restorable Area</th>
<th>LT Bank</th>
<th>RT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length (ft):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Width (ft):</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reforestation Potential:</th>
<th>Impacted area on public land where the riparian area does not appear to be used for any specific purpose; plenty of available area for planting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impacted area on either</td>
<td>Public or private land that is presently used for a specific purpose; available area for planting adequate</td>
</tr>
<tr>
<td>Impacted area on private</td>
<td>Land where road, building encroachment or other feature significantly limits available area for planting</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Potential Conflicts with Reforestation</th>
<th>No</th>
<th>Yes</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Widespread invasive plants</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potential contamination</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of sun</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poor/unsafe access to site</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Existing impervious cover</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Severe animal impacts (deer, beaver)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**

1. Parking lot adjacent to IB- E starting GPS MARK
2. Rip-Rap on banks (poor wildlife value)
3. Minor erosion (both banks)
4. Mown lawn up to edge of river
### Storm Water Outfalls

#### WATERSHED/SUBSHED:
- NEL

#### SURVEY REACH ID:
- 16

#### SITE ID (Condition #):
- OT: A

#### LAT: 41° 46' 08.7"  LONG: 72° 42' 18.1"

#### TIME:
- AM/PM

#### PHOTO ID:
- (Camera-Pic #) None /#

#### DATE:
- 11/24/09

#### ASSESSED BY:
- CMR 189

#### BANK:
- LT [ ] RT [ ] Head

#### FLOW:
- None [ ] Trickle [ ] Moderate [ ] Substantial [ ] Other:

#### TYPE:
- [ ] Closed pipe

#### MATERIAL:
- [ ] Concrete [ ] Metal [ ] PVC/Plastic [ ] Brick [ ] Other:

#### SHAPE:
- [ ] Single [ ] Circular [ ] Double [ ] Elliptical [ ] Triple [ ] Other:

#### DIMENSIONS:
- Diameter: [ ]" (in)

#### SUBMERGED:
- [ ] No [ ] Partially [ ] Fully [ ] NOT APPLICABLE

#### CONDITION:
- [ ] None [ ] Chip/Cracked [ ] Peeling Paint [ ] Corrosion [ ] Other:

#### ODOR:
- [ ] No [ ] Gas [ ] Sewage [ ] Rancid/Sour [ ] Sulfide [ ] Other:

#### DEPOSITS/STAINS:
- [ ] None [ ] Oily [ ] Flow Line [ ] Paint [ ] Other:

#### VEGGIE DENSITY:
- [ ] None [ ] Normal [ ] Inhibited [ ] Excessive [ ] Other:

#### PIPE BENTHIC GROWTH:
- [ ] None [ ] Brown [ ] Orange [ ] Green [ ] Other:

#### POOL QUALITY:
- [ ] No pool [ ] Good [ ] Odors [ ] Colors [ ] Oils [ ] Suds [ ] Algae [ ] Floatables [ ] Other:

#### FOR FLOWING ONLY

#### COLOR:
- [ ] Clear [ ] Brown [ ] Grey [ ] Yellow [ ] Green [ ] Orange [ ] Red [ ] Other:

#### TURBIDITY:
- [ ] None [ ] Slight Cloudiness [ ] Cloudy [ ] Opaque [ ] Other:

#### FLOATABLES:
- [ ] None [ ] Sewage (toilet paper, etc.) [ ] Petroleum (oil sheen) [ ] Other:

#### OTHER CONCERNS:
- [ ] Excess Trash (paper/plastic bags) [ ] Dumping (bulk) [ ] Excessive Sedimentation [ ] Needs Regular Maintenance [ ] Bank Erosion [ ] Other:

#### POTENTIAL RESTORATION CANDIDATE
- [ ] Discharge investigation [ ] Stream daylighting [ ] Local stream repair/outfall stabilization [ ] Storm water retrofit [ ] Other:

#### If yes for daylighting:
- Length of vegetative cover from outfall: _______ ft
- Type of existing vegetation: ________________________
- Slope: ________

#### If yes for stormwater:
- Is stormwater currently controlled? [ ] Yes [ ] No [ ] Not investigated
- Land Use description: ________________________

#### OUTFALL SEVERITY:

<table>
<thead>
<tr>
<th>Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.</th>
<th>Small discharge; flow mostly clear and odorless. If the discharge is present, it is small compared to the stream's base flow and any impact appears to be minor/localized.</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
</tr>
</tbody>
</table>

#### OUTFALL SEVERITY:

| 3 | 2 | 1 |

#### SKETCH/NOTES:
- Rip-rap surrounding pipe, also lead dumping here (possible snowmelt + salt inputs).

#### REPORTED TO AUTHORITIES:
- [ ] Yes [ ] No
<table>
<thead>
<tr>
<th>WATERSHED/SUBSHED: N/A</th>
<th>DATE: 11/14/09</th>
<th>ASSESSED BY: cm/186</th>
</tr>
</thead>
<tbody>
<tr>
<td>SURVEY REACH ID: 10</td>
<td>TIME: ___ AM/PM</td>
<td>PHOTO ID: Camera-Pic #90400 / #43</td>
</tr>
<tr>
<td>SITE ID (Condition #): OT- B</td>
<td>LAT 41° 46' 59.7&quot; LONG 82° 42' 13.8&quot;</td>
<td>LMK</td>
</tr>
<tr>
<td>BANK: LT □ RT □ Head</td>
<td>TYPE: Closed pipe</td>
<td>MATERIAL: Concrete □ Metal □ PVC/Plastic □ Brick □ Other:</td>
</tr>
<tr>
<td>FLOW: None □ Trickle □ Moderate □ Substantial □ Other:</td>
<td>SHAPE: Circular □ Double □ Elliptical □ Triple □ Other:</td>
<td></td>
</tr>
<tr>
<td>CONDITION: None □ Chip/Cracked □ Peeling Paint □ Corrosion □ Other:</td>
<td>DEPOSITS/STAINS: None □ Oily □ Flow Line □ Paint □ Other:</td>
<td></td>
</tr>
<tr>
<td>ODOR: No □ Gas □ Sewage □ Rancid/Sour □ Sulfide □ Other:</td>
<td>VEGGIE DENSITY: None □ Normal □ Inhibited □ Excessive □ Other:</td>
<td></td>
</tr>
<tr>
<td>PIPE BENTHIC GROWTH: None □ Brown □ Orange □ Green □ Other:</td>
<td>POOL QUALITY: No pool □ Good □ Odors □ Colors □ Oils □ Suds □ Algae □ Floatables □ Other:</td>
<td></td>
</tr>
<tr>
<td>FOR FLOWING ONLY</td>
<td>COLOR: Clear □ Brown □ Grey □ Yellow □ Green □ Orange □ Red □ Other:</td>
<td></td>
</tr>
<tr>
<td>TURBIDITY: None □ Light Cloudiness □ Cloudy □ Opaque</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FLOATABLES: None □ Sewage (toilet paper, etc.) □ Petroleum (oil sheen) □ Other:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OTHER CONCERNS: Excess Trash (paper/plastic bags) □ Dumping (bulk) □ Excessive Sedimentation □ Needs Regular Maintenance □ Bank Erosion □ Other:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Potential Restoration Candidate**
- Discharge investigation □ Stream daylighting □ Local stream repair/outfall stabilization
- Storm water retrofit □ Other:

If yes for daylighting:
- Length of vegetative cover from outfall: ______ ft Type of existing vegetation: ___________ Slope: _________

If yes for stormwater:
- Is stormwater currently controlled? Yes □ No □ Not investigated
- Land Use description: ________________________________
- Area available: ________________________________

**Outfall Severity** (circle #)
- Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.
- Small discharge; flow mostly clear and odorless, if the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor/localized.
- Outfall does not have dry weather discharge, staining, or appearance of causing any erosion problems.

**Sketch/Notes:**
- The pipe is cutting out from bank #10, possible evidence of bank erosion + channel widening?
- Another pipe at #5 with some Clarence characteristics is included to reduce redundancy.

**Reported to Authorities:** Yes □ No
**Storm Water Outfalls**

**WATERSHED/SUBSHED:** NPB

**SURVEY REACH ID:** 10

**SITE ID:** OT

**LAT:** 41° 46' 12.9" **LONG:** 81° 42' 15.2"

**DATE:** 11/24/09

**PHOTO ID:** (Camera-Pic #) 01

**ASSESSED BY:** NCM

<table>
<thead>
<tr>
<th>BANK:</th>
<th>Head</th>
<th>Head</th>
<th>Head</th>
</tr>
</thead>
<tbody>
<tr>
<td>FLOW:</td>
<td>None</td>
<td>Trickle</td>
<td>None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TYPE:</th>
<th>Closed pipe</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATERIAL:</td>
<td>Concrete</td>
</tr>
<tr>
<td>SHAPE:</td>
<td>Single</td>
</tr>
</tbody>
</table>

| DIMENSIONS: |
| Diameter: (in) |

| CONDITION: |
| None |

<table>
<thead>
<tr>
<th>ODOR:</th>
<th>Gas</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEPOSITS/STAINS:</td>
<td>None</td>
</tr>
<tr>
<td>VEGGIE DENSITY:</td>
<td>None</td>
</tr>
</tbody>
</table>

| PIPE BENTHIC GROWTH: |
| None |
| POOL QUALITY: |
| No pool |

| FOR FLOWING ONLY |
| COLOR: | Clear |
| TURBIDITY: | None |
| FLOATABLES: |
| EXPANDING |

| OTHER CONCERNS: |
| Excess Trash (paper/plastic bags) |

**POTENTIAL RESTORATION CANDIDATE**

**Discharge investigation**

**Stream daylighting**

**Local stream repair/outfall stabilization**

**Storm water retrofit**

**Other:**

If yes for daylighting:

**Length of vegetative cover from outfall:** ________ ft

Type of existing vegetation: ____________________

Slope: ________

If yes for stormwater:

**Is stormwater currently controlled?**

**Land Use description:**

If Yes No Not investigated

**Area available:**

**OUTFALL SEVERITY:**

(Heavily polluted) 5

Small discharge; flow mostly clear and odorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor/localized.

Outfall does not have dry weather discharge, staining; or appearance of causing any erosion problems.

**Sketch/Notes:**

Adjacent to parking lot.

**REPORTED TO AUTHORITIES:** Yes No
**Storm Water Outfalls**

**WATERSHED/SUBSHED:** NBP  
**DATE:** 11/24/2023  
**ASSESSED BY:**  

**SURVEY REACH ID:**  
**PHOTO ID:** (Camera-Pic #) P64400 / # 46  
**SITE ID (Condition #): OT- | LAT 41° 46' 17" LONG 73° 42' 16" LMK**  
**GPS:** (Unit ID)  

**BANK:**  
☐ LT  
☐ ART  
☐ Head  

**FLOW:**  
☐ None  
☐ Trickle  
☐ Moderate  
☐ Substantial  
☐ Other: ?  

**CONDITION:**  
☐ None  
☐ Chip/Cracked  
☐ Peeling Paint  
☐ Corrosion  
☐ Other:  

**ODOR:**  
☐ None  
☐ Gas  
☐ Sewage  
☐ Rancid/Sour  
☐ Sulfide  
☐ Other:  

**DEPOSITS/STAINS:**  
☐ None  
☐ Oily  
☐ Flow Line  
☐ Paint  
☐ Other:  

**VEGGIE DENSITY:**  
☐ None  
☐ Normal  
☐ Inhibited  
☐ Excessive  
☐ Other:  

**PIPE BENTHIC GROWTH:** ☐ None  
☐ Brown  
☐ Orange  
☐ Green  
☐ Other:  

**POOL QUALITY:**  
☐ None  
☐ Odors  
☐ Colors  
☐ Oils  
☐ Suds  
☐ Algae  
☐ Floatables  
☐ Other:  

**COLOR:**  
☐ Clear  
☐ Brown  
☐ Grey  
☐ Yellow  
☐ Green  
☐ Orange  
☐ Red  
☐ Other:  

**TURBIDITY:**  
☐ None  
☐ Slight Cloudiness  
☐ Cloudy  
☐ Opaque  

**FLOATABLES:**  
☐ None  
☐ Sewage (toilet paper, etc.)  
☐ Petroleum (oil sheen)  
☐ Other:  

**EXCESSIVE SEDIMENTATION:**  
☐ Needs Regular Maintenance  
☐ Bank Erosion  
☐ Other:  

---

**POTENTIAL RESTORATION CANDIDATE**  
☐ Discharge investigation  
☐ Stream daylighting  
☐ Local stream repair/outfall stabilization  
☐ Storm water retrofit  
☐ Other:  

**If yes for daylighting:**  
Length of vegetative cover from outfall: ______ ft  
Type of existing vegetation: ___________________  
Slope: _______

**If yes for stormwater:**  
Is stormwater currently controlled?  
☐ Yes  
☐ No  
☐ Land Use description: ___________________  
☐ Not investigated  

**OUTFALL SEVERITY:**  
(circle #)  
☐ Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.  
☐ Small discharge, flow mostly clear and odorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream’s base flow and any impact appears to be minor/localized.  
☐ Outfall does not have dry weather discharge, staining, or appearance of causing any erosion problems.  

**OUTFALL SEVERITY:**  
☐ 5  
☐ 4  
☐ 3  
☐ 2  
☐ 1  

---

**REPORTED TO AUTHORITIES:**  
☐ YES  
☐ NO  

---

**SKETCH/NOTES:**  
Severe?
**Storm Water Outfalls**

<table>
<thead>
<tr>
<th>WATERSHED/SUBSHED:</th>
<th>N6P</th>
</tr>
</thead>
<tbody>
<tr>
<td>SURVEY REACH ID:</td>
<td>16</td>
</tr>
<tr>
<td>SITE ID (Condition #:)</td>
<td>OT: E</td>
</tr>
</tbody>
</table>

**Date:** 1/24/99  
**Photo ID:** (Camera-Pic #) Nave #1  
**Assessed by:** CM 186

<table>
<thead>
<tr>
<th>Bank:</th>
<th>SALT</th>
<th>RT</th>
<th>Head</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow:</td>
<td>None</td>
<td>Trickle</td>
<td>Moderate</td>
</tr>
<tr>
<td>Condition:</td>
<td>None</td>
<td>Chip/Cracked</td>
<td>Peeling Paint</td>
</tr>
<tr>
<td>Odor:</td>
<td>None</td>
<td>Gas</td>
<td>Sewage</td>
</tr>
<tr>
<td>Deposits/Stains:</td>
<td>None</td>
<td>Oily</td>
<td>Flow Line</td>
</tr>
<tr>
<td>Veggie Density:</td>
<td>None</td>
<td>Normal</td>
<td>Inhibited</td>
</tr>
<tr>
<td>Pipe Benthic Growth:</td>
<td>None</td>
<td>Brown</td>
<td>Orange</td>
</tr>
<tr>
<td>Pool Quality:</td>
<td>No pool</td>
<td>Good</td>
<td>Odors</td>
</tr>
</tbody>
</table>

**For Flowing Only:***

<table>
<thead>
<tr>
<th>Color:</th>
<th>Clear</th>
<th>Brown</th>
<th>Grey</th>
<th>Yellow</th>
<th>Green</th>
<th>Orange</th>
<th>Red</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turbidity:</td>
<td>None</td>
<td>Slight Cloudiness</td>
<td>Cloudy</td>
<td>Opaque</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Floatables:</td>
<td>None</td>
<td>Sewage (toilet paper, etc.)</td>
<td>Petroleum (oil sheen)</td>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Other Concerns:**

- Excess Trash (paper/plastic bags)
- Dumping (bulk)
- Excessive Sedimentation
- Needs Regular Maintenance
- Bank Erosion
- Other:

**Potential Restoration Candidate:**

- Discharge investigation
- Stream daylighting
- Local stream repair/outfall stabilization
- Storm water retrofit
- Other:

If yes for daylighting:

- Length of vegetative cover from outfall: ______ ft  
- Type of existing vegetation: ______  
- Slope: ______

If yes for stormwater:

- Is stormwater currently controlled? Yes  
- Land Use description: ______  
- Not investigated  
- Area available: ______

**Outfall Severity:**

- Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.
- Small discharge; flow mostly clear and odorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor/localized.
- Outfall does not have dry weather discharge; staining; or appearance of causing any erosion problems.

**Sketch/Notes:**

Metal pipe with cap on end that is a part of a concrete box culvert coming out of parking lot area. Possible sewer?

**Reported to Authorities:** Yes  
No
### Stream Crossing

**Watershed/Subshed:** NEP  
**Survey Reach ID:** [Blank]  
**Time:** 9:00 PM  
**Date:** 1/24/07  
**Assessed By:** [Blank]  
**Photo ID:** (Camera-Pic #:) [Blank]  
**Site ID:** (Condition #) SC-1014  
**Lat:** 41°46'04.7"  
**Lon:** 42°13'36"  
**LMK:** [Blank]  
**GPS (Unit ID):** [Blank]

**Type:** [ ] Road Crossing  
[ ] Railroad Crossing  
[ ] Mannmade Dam  
[ ] Beaver Dam  
[ ] Geological Formation  
[ ] Other:

**Shape:**  
[ ] Arch  
[ ] Box  
[ ] Elliptical  
[ ] Circular  
[ ] Other:

**For Road/Railroad Crossings Only:**

**Condition:** (Evidence of...)  
[ ] None  
[ ] Cracking/chipping/corrosion  
[ ] Downstream scour hole  
[ ] Sediment deposition  
[ ] Failing embankment  
[ ] Other (describe):

**# Barrels:**

[ ] Single  
[ ] Double  
[ ] Triple  
[ ] Other:

**Material:**  
[ ] Concrete  
[ ] Metal  
[ ] Other:

**Alignment:**  
[ ] Flow-aligned  
[ ] Not flow-aligned  
[ ] Do not know

**Dimensions:** (If variable, sketch)

- Barrel diameter: [Blank] (ft)
- Height: [Blank] (ft)
- Culvert length: [Blank] (ft)
- Width: [Blank] (ft)
- Roadway elevation: [Blank] (ft)

**Potential Restoration Candidate:**  
[ ] Fish barrier removal  
[ ] Culvert repair/replacement  
[ ] Upstream storage retrofit  
[ ] Local stream repair  
[ ] Other:

**Is SC Acting as Grade Control:**  
[ ] No  
[ ] Yes  
[ ] Unknown

**Extent of Physical Blockage:**

- Total  
- Temporary  
- Partial  
- Unknown

If yes for fish barrier:

**Cause:**  
[ ] Drop too high  
[ ] Flow too shallow  
[ ] Water Drop: [Blank] (in)  
[ ] Water Depth: [Blank] (in)

**Blockage Severity:** (Circle #)

1. A structure such as a dam or road culvert on a 3rd order or greater stream blocking the upstream movement of anadromous fish; no fish passage device present.
2. A total fish blockage on a tributary that would isolate a significant reach of stream, or partial blockage that may interfere with the migration of anadromous fish.
3. A temporary barrier such as a beaver dam or a blockage at the very head of a stream with very little viable fish habitat above it; natural barriers such as waterfalls.

**Notes/Sketch:**  
This marks the downstream (start) of reach 16 (NEP) at the southernmost point in this assessment.

**Reported to Authorities:**  
[ ] Yes  
[ ] No
**Survey Reach ID:** 19  
**Wtrsh/Subsh:** NBP  
**Date:** 11/25/07  
**Assessed by:** [Signature]

**Start**  
- **Time:** 8:21 AM  
- **LMK:**  
- **Lat:** 41° 48' 18"  
- **Long:** 92° 42' 24"  
- **Description:** Cultivated road crossing

**End**  
- **Time:** 7:26 PM  
- **LMK:**  
- **Lat:** 41° 48' 24"  
- **Long:** 92° 42' 24"  
- **Description:** Environmental Restoration

**Rain in Last 24 Hours**  
- [ ] Heavy rain  
- [ ] Steady rain  
- [ ] None  
- [ ] Intermittent  
- [ ] Trace

**Surrounding Land Use**  
- [ ] Industrial  
- [ ] Commercial  
- [ ] Golf course  
- [ ] Park  
- [ ] Urban/Residential  
- [ ] Suburban/Residential  
- [ ] Forested  
- [ ] Institutional  
- [ ] Pasture  
- [ ] Other:

**Average Conditions**  
**Flow as %**  
- [ ] 0-25%  
- [ ] 25-50%  
- [ ] 50-75%  
- [ ] 75-100%

**Dominant Substrate**  
- [ ] Silt/clay (fine or slick)  
- [ ] Cobble (2.5-10")  
- [ ] Sand (gritty)  
- [ ] Boulder (>10")  
- [ ] Gravel (0.1-2.5")  
- [ ] Bed rock

**Water Clarity**  
- [ ] Clear  
- [ ] Turbid (suspended matter)  
- [ ] Stained (clear, naturally colored)  
- [ ] Opaque (milky)  
- [ ] Other (chemicals, dyes)

**Aquatic Plants in Stream**  
- [ ] Attached: none  
- [ ] Some  
- [ ] Lots
- [ ] Floating: none  
- [ ] Some  
- [ ] Lots

**Wildlife in or Around Stream**  
- [ ] Fish  
- [ ] Beaver  
- [ ] Deer  
- [ ] Snails  
- [ ] Other: (Evidence of)

**Stream Shading**  
- [ ] Mostly shaded (>75% coverage)  
- [ ] Halfway (50%)  
- [ ] Partially shaded (25%)  
- [ ] Unshaded (<25%)  
- [ ] Unknown

**Channel Dynamics**  
- [ ] Downcutting  
- [ ] Widening  
- [ ] Headcutting  
- [ ] Aggrading  
- [ ] Sediment deposition  
- [ ] Bed scour  
- [ ] Bank failure  
- [ ] Bank scour  
- [ ] Slope failure  
- [ ] Channelized

**Channel Dimensions**  
- **FACING DOWNSTREAM**  
  - **Height:** LT bank: 30 ft  
  - **RT bank: 25 ft**
  - **Width:** Bottom: 12" (ft)

**Reach Accessibility**

| Good: Open area in public ownership, sufficient room to stockpile materials, easy stream channel access for heavy equipment using existing roads or trails. |
| Fair: Forested or developed area adjacent to stream. Access requires tree removal or impact to landscaped areas. Stockpile areas small or distant from stream. |
| Difficult, Must cross wetland, steep slope, or sensitive areas to get to stream. Few areas to stockpile available and/or located a great distance from stream. Specialized heavy equipment required. |

**Notes:** (biggest problem you see in survey reach)  
- Impacted Bank at south end of culvert. The underground tunnel that carries water downstream must be very long.  
- It is not located on the other side of the street or it is closed

**Environmental Restoration Building**  
- [ ] Reported to Authorities: [ ] Yes  [ ] No
### OVERALL STREAM CONDITION

<table>
<thead>
<tr>
<th>In-Stream Habitat</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>(May modify criteria based on appropriate habitat regime)</td>
<td>Greater than 70% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).</td>
<td>40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not just prepared for colonization (may rate at high end of scale).</td>
<td>20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.</td>
<td>Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.</td>
</tr>
<tr>
<td>Vegetative Protection</td>
<td>More than 90% of the streambank surfaces covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.</td>
<td>70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stature height remaining.</td>
<td>50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stature height remaining.</td>
<td>Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stature height.</td>
</tr>
<tr>
<td>(score each bank, determine sides by facing downstream)</td>
<td>Left Bank 10 9</td>
<td>8 7 6</td>
<td>3 4 3</td>
<td>2 1 0</td>
</tr>
<tr>
<td></td>
<td>Right Bank 10 9</td>
<td>8 7 6</td>
<td>3 4 3</td>
<td>2 1 0</td>
</tr>
<tr>
<td>Bank Erosion (facing downstream)</td>
<td>Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. &lt;5% of bank affected.</td>
<td>Grade and width stable; isolated areas of bank failure/erosion; likely caused by a pipe cutout, local scour, impaired riparian vegetation or adjacent use.</td>
<td>Past downcutting evident, active stream widening, banks actively eroding at a moderate rate; no threat to property or infrastructure.</td>
<td>Active downcutting; tall banks on both sides of the stream eroding at a fast rate; erosion contributing significant amount of sediment to stream; obvious threat to property or infrastructure.</td>
</tr>
<tr>
<td></td>
<td>Left Bank 10 9</td>
<td>8 7 6</td>
<td>3 4 3</td>
<td>2 1 0</td>
</tr>
<tr>
<td></td>
<td>Right Bank 10 9</td>
<td>8 7 6</td>
<td>3 4 3</td>
<td>2 1 0</td>
</tr>
<tr>
<td>Floodplain Connection</td>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched.</td>
<td>High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched.</td>
</tr>
<tr>
<td></td>
<td>Left Bank 10 9</td>
<td>8 7 6</td>
<td>3 4 3</td>
<td>2 1 0</td>
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<tr>
<td></td>
<td>Right Bank 10 9</td>
<td>8 7 6</td>
<td>3 4 3</td>
<td>2 1 0</td>
</tr>
</tbody>
</table>

### OVERALL BUFFER AND FLOODPLAIN CONDITION

<table>
<thead>
<tr>
<th>Vegetated Buffer Width</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width of buffer zone &gt;50 feet; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, crops) have not impacted zone.</td>
<td>Width of buffer zone 25-50 feet; human activities have impacted zone only minimally.</td>
<td>Width of buffer zone 10-25 feet; human activities have impacted zone a great deal.</td>
<td>Width of buffer zone &lt;10 feet; little or no riparian vegetation due to human activities.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Left Bank 10 9</td>
<td>8 7 6</td>
<td>3 4 3</td>
<td>2 1 0</td>
</tr>
<tr>
<td></td>
<td>Right Bank 10 9</td>
<td>8 7 6</td>
<td>3 4 3</td>
<td>2 1 0</td>
</tr>
<tr>
<td>Floodplain Vegetation</td>
<td>Predominant floodplain vegetation type is mature forest.</td>
<td>Predominant floodplain vegetation type is young forest.</td>
<td>Predominant floodplain vegetation type is shrub or old field.</td>
<td>Predominant floodplain vegetation type is turf or crop land.</td>
</tr>
<tr>
<td></td>
<td>Predominant floodplain vegetation type is mature forest.</td>
<td>Predominant floodplain vegetation type is young forest.</td>
<td>Predominant floodplain vegetation type is shrub or old field.</td>
<td>Predominant floodplain vegetation type is turf or crop land.</td>
</tr>
<tr>
<td></td>
<td>Left Bank 10 9</td>
<td>8 7 6</td>
<td>3 4 3</td>
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</tr>
<tr>
<td></td>
<td>Right Bank 10 9</td>
<td>8 7 6</td>
<td>3 4 3</td>
<td>2 1 0</td>
</tr>
<tr>
<td>Floodplain Habitat</td>
<td>Even mix of wetland and non-wetland habitats, evidence of standing/ponded water.</td>
<td>Even mix of wetland and non-wetland habitats, no evidence of standing/ponded water.</td>
<td>Either all wetland or all non-wetland habitat, evidence of standing/ponded water.</td>
<td>Either all wetland or all non-wetland habitat, no evidence of standing/ponded water.</td>
</tr>
<tr>
<td></td>
<td>Left Bank 10 9</td>
<td>8 7 6</td>
<td>3 4 3</td>
<td>2 1 0</td>
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<tr>
<td></td>
<td>Right Bank 10 9</td>
<td>8 7 6</td>
<td>3 4 3</td>
<td>2 1 0</td>
</tr>
<tr>
<td>Floodplain Encroachment</td>
<td>No evidence of floodplain encroachment in the form of fill material, land development, or manmade structures.</td>
<td>Minor floodplain encroachment in the form of fill material, land development, or manmade structures, but not affecting floodplain function.</td>
<td>Moderate floodplain encroachment in the form of filling, land development, or manmade structures, some effect on floodplain function.</td>
<td>Significant floodplain encroachment (i.e., fill material, land development, or man-made structures). Significant effect on floodplain function.</td>
</tr>
<tr>
<td></td>
<td>Left Bank 10 9</td>
<td>8 7 6</td>
<td>3 4 3</td>
<td>2 1 0</td>
</tr>
<tr>
<td></td>
<td>Right Bank 10 9</td>
<td>8 7 6</td>
<td>3 4 3</td>
<td>2 1 0</td>
</tr>
</tbody>
</table>

**Sub Total In-stream:** 44/80  
**Buffer/Floodplain:** 7/80  
**Total Survey Reach:** 97/160
REACH 19 (NBP) flows into this box culvert but it is unclear how far the stream must travel underground - no outlet was observed and there is an athletic field on the other side of the street. At the box culvert inlet there appears to be evidence of recent excavation - possibly from an emergency flood event (?) there is R11, Rip-Rap, + evidence of a recent washout under the road (see photo #01 +02).
WATERSHED/SUBSHED: NBP
SURVEY REACH ID: 19
SITE ID: (Condition #) SC - 5

DATE: 1/18/09
TIME: 9:15 AM
PHOTO ID: (Camera-Pic #) PRD300 # 05

LAT 41° 48' 34" LONG 72° 42' 24"
LMK

GPS (Unit ID)

FARM
ROAD CROSSING

SHAPE: Arch
Box
Circular
Other:

# BARRELS: Single
Double
Triple
Other:

MATERIAL: Concrete
Metal
Other:

ALIGNMENT: Flow-aligned
Not flow-aligned
Do not know

DIMENSIONS: (For variable, sketch)
Barrel diameter:
Height:

CULVERT SLOPE:
Flat
Slight (2° - 5°)
Obvious (>5°)

Roadway elevation:

CONDITION: (Evidence of...)
Cracking/chipping/corrosion
Sediment deposition
Other (describe):

DOWNSTREAM SCOUR HOLE
Failing embankment

PIELOT RESTORATION CANDIDATE
Fish barrier removal
Culvert repair/replacement
Upstream storage retrofit

no
Local stream repair
Other: Sediment removal

IS SC ACTING AS GRADE CONTROL
No
Yes

EXTENT OF PHYSICAL BLOCKAGE:
Total
Temporary
Unknown

CAUSE:
Drop too high
Flow too shallow
Other:

A structure such as a dam or road culvert on a 3rd order or greater stream blocking the upstream movement of anadromous fish; no fish passage device present.

BLOCKAGE SEVERITY: (Circle #)

1
2
3
4
5

A total fish blockage on a tributary that would isolate a significant reach of stream, or partial blockage that may interfere with the migration of anadromous fish.

A temporary barrier such as a beaver dam or a blockage at the very head of a stream with very little visible fish habitat above it; natural barriers such as waterfalls.

REPORTED TO AUTHORITIES
Yes
No

NOTES/SKETCH: the stream passes under this culvert under a beaver possibly an old farm road. It is in good condition other than high sediment loads—likely from storm water inputs.
Channel Modification

<table>
<thead>
<tr>
<th>WATERSHED/SUBSHED: N8P</th>
<th>DATE: 11/23/07</th>
<th>ASSESSED BY: CM/86</th>
</tr>
</thead>
<tbody>
<tr>
<td>SURVEY REACH ID: 17</td>
<td>TIME: 8:32 PM</td>
<td>PHOTO ID: (Camera-Pic #) 1004002</td>
</tr>
<tr>
<td>CM-2023</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SITE ID: (Condition #)</td>
<td>START LAT 41°48'18&quot;</td>
<td>LMK B0814</td>
</tr>
<tr>
<td></td>
<td>END LAT 42°42'39&quot;</td>
<td>LMK</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TYPE:</th>
<th>Channelization</th>
<th>Bank armoring</th>
<th>concrete channel</th>
<th>Floodplain encroachment</th>
<th>Other:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>MATERIAL:</th>
<th>Concrete</th>
<th>Gabion</th>
<th>Rip Rap</th>
<th>Earthen</th>
<th>Metal</th>
<th>Other:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Does channel have perennial flow?</td>
<td>Yes</td>
<td>No</td>
<td>Is there evidence of sediment deposition?</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DIMENSIONS:</th>
<th>Height</th>
<th>8 (ft)</th>
<th>Bottom Width</th>
<th>Top Width</th>
<th>Length</th>
<th>12 (ft)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>BASE FLOW CHANNEL</th>
<th>ADJACENT STREAM CORRIDOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depth of flow</td>
<td>Available width LT 12 (ft) RT 12 (ft)</td>
</tr>
<tr>
<td>Defined low flow channel?</td>
<td>Yes</td>
</tr>
<tr>
<td>% of channel bottom</td>
<td>%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>POTENTIAL RESTORATION CANDIDATE</th>
<th>STRUCTURAL REPAIR</th>
<th>BASE FLOW CHANNEL CREATION</th>
<th>NATURAL CHANNEL DESIGN</th>
<th>CAN'T TELL</th>
</tr>
</thead>
<tbody>
<tr>
<td>De-channelization</td>
<td>Fish barrier removal</td>
<td>Bioengineering</td>
<td>Natural channel design</td>
<td>Can't tell</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHANNELIZATION SEVERITY: 5 (Circle #)</th>
<th>A long section of concrete stream (&gt;500') channel where water is very shallow (&lt;1' deep) with no natural sediments present in the channel.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A moderate length (&gt; 200'), but channel stabilized and beginning to function as a natural stream channel. Vegetated bars may have formed in channel.</td>
<td>An earthen channel less than 100 ft with good water depth, a natural sediment bottom, and size and shape similar to the unchannelized stream reaches above and below impacted area.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NOTES:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appears to have been emergency flooding + rip-rap/excavation may have been placed/occurred recently.</td>
</tr>
</tbody>
</table>
Storm Water Outfalls

<table>
<thead>
<tr>
<th>WATERSHED/SUBSHED:</th>
<th>NBP</th>
</tr>
</thead>
<tbody>
<tr>
<td>SURVEY REACH ID:</td>
<td></td>
</tr>
<tr>
<td>TIME:</td>
<td>1:05 PM</td>
</tr>
<tr>
<td>DATE:</td>
<td>11/23/09</td>
</tr>
<tr>
<td>ASSESSED BY:</td>
<td>#M/BG</td>
</tr>
<tr>
<td>PHOTO ID:</td>
<td>(Camera-Pic #)</td>
</tr>
<tr>
<td>SITE ID</td>
<td>OT</td>
</tr>
<tr>
<td>CONDITION</td>
<td>OT</td>
</tr>
<tr>
<td>LAT</td>
<td>41° 48' 21&quot;</td>
</tr>
<tr>
<td>LONG</td>
<td>24° 43' 25&quot;</td>
</tr>
<tr>
<td>LMK</td>
<td></td>
</tr>
<tr>
<td>GPS:</td>
<td>(Unit ID)</td>
</tr>
</tbody>
</table>

**BANK:**
- LT
- RT
- Head

**FLOW:**
- None
- Trickled
- Moderate
- Substantial
- Other

**TYPE:**
- Closed pipe
- Open channel

**CONNECTION:**
- Closed pipe
- Open channel

**CONDITION:**
- Nontoxic
- Gas
- Sewage
- Rancid
- Sulfide
- Other

**ORIGIN:**
- None
- Trickled
- Moderate
- Substantial
- Other

**DEPOSITS/STAINS:**
- None
- Slight Cloudiness
- Flow Line
- Paint
- Other

**VEGETATION DENSITY:**
- None
- Normal
- Inhibited
- Excessive
- Other

**PIPE BENTHIC GROWTH:**
- None
- Normal
- Inhibited
- Other

**COLOR:**
- Clear
- Brown
- Grey
- Yellow
- Green
- Orange
- Red
- Other

**TURBIDITY:**
- None
- Slight Cloudiness
- Cloudy
- Opaque

**FLOATABLES:**
- None
- Sewage (toilet paper, etc.)
- Petroleum (oil sheen)
- Other

**OTHER CONCERNS:**
- Excess Trash (paper/plastic bags)
- Dumping (bulk)
- Excessive Sedimentation
- Needs Regular Maintenance
- Bank Erosion
- Other

**POTENTIAL RESTORATION CANDIDATE:**
- Discharge investigation
- Stream daylighting
- Local stream repair/outfall stabilization
- Storm water retrofit
- Other

**If yes for daylighting:**
- Length of vegetative cover: 15 ft
- Type of existing vegetation: 3 ft
- Slope: 1:1

**If yes for stormwater:**
- Is stormwater currently controlled?
  - Yes
  - No
  - Not investigated
  - Land use description:

**OUTFALL SEVERITY:**
- Circle #
- Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.
- Small discharge, flow mostly clear and odorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor/localized.
- Outfall does not have dry weather discharge, staining, or appearance of causing any erosion problems.

**REPORTED TO AUTHORITIES:**
- Yes
- No

**SKETCH/NOTES:**

---

**FOR FLOWING ONLY:**
- Color:
- Turbidity:
- Floatables:

---

**TOTAL牲 FOLLOWING ONLY:**
- Clear
- Brown
- Grey
- Yellow
- Green
- Orange
- Red
- Other

---

**TOTAL牲 FOLLOWING ONLY:**
- None
- Slight Cloudiness
- Cloudy
- Opaque

---

**TOTAL牲 FOLLOWING ONLY:**
- None
- Sewage (toilet paper, etc.)
- Petroleum (oil sheen)
- Other

---

**TOTAL牲 FOLLOWING ONLY:**
- Excess Trash (paper/plastic bags)
- Dumping (bulk)
- Excessive Sedimentation
- Needs Regular Maintenance
- Bank Erosion
- Other

---

**TOTAL牲 FOLLOWING ONLY:**
- Discharge investigation
- Stream daylighting
- Local stream repair/outfall stabilization
- Storm water retrofit
- Other

---

**TOTAL牲 FOLLOWING ONLY:**
- Yes
- No
- Not investigated
- Land use description:
Reach Level Assessment

Survey Reach ID: 1
Watershed/Subdivision: Fys
Date: 11/30/07
Assessed by: CM/10

Start Time: 7:55 AM
LMK: L
Lat: 41° 49' 28"
Long: 72° 43' 41"
Description: Railroad tracks/culvert

End Time: 10:30 AM
LMK: L
Lat: 41° 49' 42"
Long: 72° 43' 30"
Description: Hillside

Rain in Last 24 Hours: ☐ None ☐ Heavy rain ☐ Steady rain
☐ Intermittent ☐ Trace ☐ Clear ☐ Overcast ☐ Partly cloudy

Surrounding Land Use: ☐ Industrial ☐ Commercial ☐ Residential/Suburban
☐ Golf course ☐ Park ☐ Crop ☐ Pasture ☐ Other: Institutional

Average Conditions (check applicable)
Base Flow as %: ☐ 0-25% ☐ 25-50% ☐ 50%-75% ☐ 75-100%
Channel Width: ☐ 25-50% ☐ 50%-75% ☐ 75-100%

Dominant Substrate: ☐ Silts/Clay (fine or slick) ☐ Cobble (2.5-10"
☐ Sand (gritty) ☐ Boulder (>10"
☐ Gravel (0.1-2.5") ☐ Bed rock

Water Clarity: ☐ Clear ☐ Turbid (suspended matter)
☐ Stained (clear, naturally colored) ☐ Opaque (milky)
☐ Other (chemicals, dyes)

Aquatic Plants in Stream: Attacked: ☐ None ☐ Some ☐ Lots
☐ Floating: ☐ None ☐ Some ☐ Lots

Wildlife in or Around Stream: (Evidence of)
☐ Fish ☐ Beaver ☐ Deep Water Dwellers ☐ Mammals
☐ Snails ☐ Other: Raccoon, Muskrat

Stream Shading (water surface): ☐ Mostly shaded (>75% coverage)
☐ Halfway (50%)
☐ Partially shaded (25%)
☐ Unshaded (<25%)

Channel Dynamics: ☐ Downcutting ☐ Widening
☐ Headcutting ☐ Aggrading
☐ Sed. deposition ☐ Bed scour
☐ Bank failure ☐ Bank scour
☐ Slope failure

Channel Dimensions (Facing Downstream)
Height: Left Bank: 32"
Right Bank: 32"
Width: Bottom: 14.6'

Reach Accessibility:
Good: Open area in public ownership, sufficient room to stockpile materials, easy stream channel access for heavy equipment using existing roads or trails.
Fair: Forested or developed area adjacent to stream. Access requires tree removal or impact to landscaped areas. Stockpile areas small or distant from stream.
Difficult. Must cross wetland, steep slope, or sensitive areas to get to stream. Few areas to stockpile available and/or located a great distance from stream. Specialized heavy equipment required.

Notes: (biggest problem you see in survey reach) Impacted outfall & lacs tail area, high water, muddy, very accous with some sincere, 2 strips, wash, riprap, adjacent to railroad tracks

Reported to authorities: ☐ Yes ☐ No
### Overall Stream Condition

<table>
<thead>
<tr>
<th>In-stream Habitat</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>(May modify criteria based on appropriate habitat regime)</td>
<td>Greater than 70% of substrate favorable for epilithon colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).</td>
<td>40-70% mix of stable habitat; well-represented, adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).</td>
<td>20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.</td>
<td>Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.</td>
</tr>
</tbody>
</table>

| Vegetative Protection | | | | |
|-----------------------| | | | |
| (score each bank, determine sides by facing downstream) | More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally. | 70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented, disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining. | 50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining. | Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height. |

| Bank Erosion (facing downstream) | | | | |
| Left Bank 10 | 8 | 7 | 6 | 5 | 3 |
| Right Bank 10 | 8 | 7 | 6 | 5 | 4 |

| Floodplain Connection | | | | |
|-----------------------| | | | |
| High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched. | High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched. | High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched. | High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched. | |

<p>| Overall Buffer and Floodplain Condition | | | | |
|-----------------------------------------| | | | |</p>
<table>
<thead>
<tr>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vegetated Buffer Width</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Width of buffer zone &gt;50 feet; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, crops) have not impacted zone.</td>
<td>Width of buffer zone 25-50 feet; human activities have impacted zone only minimally.</td>
<td>Width of buffer zone 10-25 feet; human activities have impacted zone a great deal.</td>
<td>Width of buffer zone &lt;10 feet; little or no riparian vegetation due to human activities.</td>
</tr>
</tbody>
</table>

| Floodplain Vegetation | | | | |
|-----------------------| | | | |
| Predominant floodplain vegetation type is mature forest. | Predominant floodplain vegetation type is young forest. | Predominant floodplain vegetation type is shrub or old field. | Predominant floodplain vegetation type is turf or crop land. |

| Floodplain Habitat | | | | |
|-------------------| | | | |
| Even mix of wetland and non-wetland habitats, evidence of standing/ponded water. | Even mix of wetland and non-wetland habitats, no evidence of standing/ponded water. | Either all wetland or all non-wetland habitat, evidence of standing/ponded water. | Either all wetland or all non-wetland habitat, no evidence of standing/ponded water. |

| Floodplain Encroach-ment | | | | |
|--------------------------| | | | |
| No evidence of floodplain encroachment in the form of fill material, land development, or manmade structures. | Minor floodplain encroachment in the form of fill material, land development, or manmade structures, but not effecting floodplain function. | Moderate floodplain encroachment in the form of fill material, land development, or manmade structures, some effect on floodplain function. | Significant floodplain encroachment (i.e., fill material, land development, or manmade structures). Significant effect on floodplain function. |

Sub Total In-stream: 157/80 + Buffer/Floodplain: 24/80 = Total Survey Reach: 181/160
**WATERSHED/SUBSHED:** FY6  
**SURVEY REACH:**  
**DATE:** 11/30/09  
**ASSESSED BY:** CM+89  
**PHOTO ID:** (Camera-Pic #) 4930 #03  
**SITE ID:** (Condition #) IB: A  
**START** LAT 41°49'08"" Long 72°43'41"" LMK  
**END** LAT  Long LMK  
**GPS:** (Unit ID)  

### IMPACTED BANK:
- LT
- RT
- Both

### REASON INADEQUATE:
- Lack of vegetation
- Too narrow
- Widespread invasive plants
- Recently planted
- Other: Rip-Rap

### LAND USE:
- Private
- Institutional
- Golf Course
- Park
- Other Public

### LAND COVER:
- (Facing downstream) LT Bank
- RT Bank

### DOMINANT LAND COVER:
- Paved
- Bare ground
- Turf/lawn
- Tall grass
- Shrub/scrub
- Trees
- Other

### INVASIVE PLANTS:
- None
- Rare
- Partial coverage
- Extensive coverage
- Unknown

### STREAM SHADE PROVIDED?
- None
- Partial
- Full

### WETLANDS PRESENT?
- No
- Yes
- Unknown

### POTENTIAL RESTORATION CANDIDATE
- Active reforestation
- Greenway design
- Natural regeneration
- Invasives removal

### RESTORABLE AREA

<table>
<thead>
<tr>
<th>LT Bank Width (ft)</th>
<th>200'</th>
</tr>
</thead>
<tbody>
<tr>
<td>RT Bank Length (ft)</td>
<td>200'</td>
</tr>
</tbody>
</table>

### REFORESTATION POTENTIAL:
(Circle #)
- Impacted area on public land does not appear to be used for any specific purpose; plenty of area available for planting
- Impacted area on either public or private land that is presently used for a specific purpose; available area for planting adequate
- Impacted area on private land where road; building encroachment or other feature significantly limits available area for planting

### POTENTIAL CONFLICTS WITH REFORESTATION
- Widespread invasive plants
- Potential contamination
- Lack of sun
- Poor/unsafe access to site
- Existing impervious cover
- Severe animal impacts (deer, beaver)
- Other

### NOTES:
- Railroad tracks / Rip-Rap along both banks for ~200'
**WATERSHED/SUBSHED:** FY5

**SURVEY REACH:**

**DATE:** 1/30/07, **ASSESS BY:** CM 1/5/07

**PHOTO ID:** (Camera-Pic #:) H930 #04+07

**SITE ID:** (Condition #) IB-8

**START** LAT 41° 49' 32" LONG 72° 43' 43"

**END** LAT 41° 49' 37" LONG 72° 43' 47"

**IMPACTED BANK:**
- [ ] LT
- [ ] RT
- [X] Both

**REASON INADEQUATE:**
- [X] Lack of vegetation
- [ ] Too narrow
- [ ] Widespread invasive plants
- [ ] Recently planted
- [ ] Other: Streamwater inputs without canopy cover

**LAND USE:**
- [ ] Private
- [ ] Institutional
- [ ] Golf Course
- [ ] Park
- [ ] Other Public

**DOMINANT LAND COVER:**
- [ ] Paved
- [ ] Bare ground
- [X] Turf/lawn
- [ ] Tall grass
- [ ] Shrub/scrub
- [X] Trees
- [ ] Other

**INVASIVE PLANTS:**
- [ ] None
- [ ] Rare
- [X] Partial coverage
- [ ] Extensive coverage
- [ ] Unknown

**STREAM SHADE PROVIDED?**
- [ ] None
- [X] Partial
- [ ] Full

**WETLANDS PRESENT?**
- [ ] No
- [ ] Yes
- [ ] Unknown

**POSSIBLE RESTORATION CANDIDATE**
- [ ] Active reforestation
- [ ] Greenway design
- [X] Natural regeneration
- [ ] Invasives removal
- [ ] No
- [ ] Other:

**RESTORABLE AREA**

<table>
<thead>
<tr>
<th>LT BANK</th>
<th>RT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width (ft):</td>
<td></td>
</tr>
<tr>
<td>Length (ft):</td>
<td></td>
</tr>
</tbody>
</table>

**REFORESTATION POTENTIAL:**

- [ ] Impacted area on public land where the riparian area does not appear to be used for any specific purpose; plenty of area available for planting
- [ ] Impacted area on either public or private land that is presently used for a specific purpose; available area for planting adequate
- [ ] Impacted area on private land where road; building encroachment or other feature significantly limits available area for planting

**PAID CONFLICTS WITH REFORESTATION**
- [ ] Widespread invasive plants
- [ ] Potential contamination
- [ ] Lack of sun
- [ ] Poor/unsafe access to site
- [ ] Existing impervious cover
- [ ] Severe animal impacts (deer, beaver)
- [ ] Other:

**NOTES:**

- Recent clearing of veg + topsoil. Stream has been balled down to keep seed/soil (left bank)
- No buffer (left bank)
- Many lawn without vegetation in riparian zone + low % cover of canopy (30%) - left bank
- Field (both banks) with streamwater inputs, tuftly grassy slopes - could increase thermal regime.
Storm Water Outfalls

<table>
<thead>
<tr>
<th>WATERSHED/SUBSHED: FYB</th>
<th>DATE: 1/30/09</th>
<th>ASSESSED BY: CM /69</th>
</tr>
</thead>
<tbody>
<tr>
<td>SURVEY REACH ID:</td>
<td>TIME: 9:55 AM</td>
<td>PHOTO ID: (Camera-Pic #) 143800 /# 03</td>
</tr>
<tr>
<td>SITE ID (Condition #) OT: A</td>
<td>LAT: 41° 09' 28&quot;</td>
<td>LONG: 72° 43' 41&quot;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BANK:</th>
<th>TYPE:</th>
<th>MATERIAL:</th>
<th>SHAPE:</th>
<th>DIMENSIONS:</th>
<th>SUBMERGED:</th>
</tr>
</thead>
<tbody>
<tr>
<td>LRT</td>
<td>Closed pipe</td>
<td>□ Concrete</td>
<td>□ PVC/Plastic</td>
<td>□ Circular</td>
<td>□ No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>□ Metal</td>
<td>□ Brick</td>
<td></td>
<td>□ Partially</td>
</tr>
<tr>
<td></td>
<td></td>
<td>□ Other:</td>
<td></td>
<td></td>
<td>□ Fully</td>
</tr>
<tr>
<td>Open channel</td>
<td>□ Concrete</td>
<td>□ Earthen</td>
<td>□ Trapezoid</td>
<td>Depth:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>□ Other:</td>
<td></td>
<td></td>
<td>(in)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CONDITION:</th>
<th>ODOR:</th>
<th>DEPOSITS/STAINS:</th>
<th>VEGGIE DENSITY:</th>
<th>PIPE BENTHIC GROWTH:</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>□ No</td>
<td>□ Gas</td>
<td>□ None</td>
<td>□ None</td>
</tr>
<tr>
<td></td>
<td></td>
<td>□ Sewage</td>
<td>□ Oily</td>
<td>□ Normal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>□ Rancid/Sour</td>
<td>□ Flow Line</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>□ Sulfide</td>
<td>□ Paint</td>
<td>□ Inhibited</td>
</tr>
<tr>
<td></td>
<td></td>
<td>□ Other:</td>
<td>□ Other:</td>
<td>□ Excessive</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>□ Other:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FOR FLOWING ONLY</th>
<th>COLOR:</th>
<th>TURBIDITY:</th>
<th>FLOATABLES:</th>
<th>POOL QUALITY:</th>
</tr>
</thead>
<tbody>
<tr>
<td>COLOR: Clear</td>
<td>□ Brown</td>
<td>□ Grey</td>
<td>□ Yellow</td>
<td>□ No pool</td>
</tr>
<tr>
<td>TURBIDITY: □ None</td>
<td>□ Slight Cloudiness</td>
<td>□ Cloudy</td>
<td>□ Orange</td>
<td></td>
</tr>
<tr>
<td>FLOATABLES: □ None</td>
<td>□ Sewage (toilet paper, etc.)</td>
<td>□ Petroleum (oil sheen)</td>
<td>□ Suds</td>
<td></td>
</tr>
</tbody>
</table>

| OTHER CONCERNS: | | | | |
|-----------------|-----------------|-----------------|-----------------|
| □ Excess Trash (paper/plastic bags) | □ Dumping (bulk) | □ Excessive Sedimentation | |
| □ Needs Regular Maintenance | □ Bank Erosion | □ Other: | |

<table>
<thead>
<tr>
<th>POTENTIAL RESTORATION CANDIDATE</th>
<th>Discharge investigation</th>
<th>Stream daylighting</th>
<th>Local stream repair/outfall stabilization</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ yes</td>
<td>□ no</td>
<td>□ Storm water retrofit</td>
<td>□ Other:</td>
</tr>
</tbody>
</table>

If yes for daylighting:
Length of vegetative cover from outfall: ___________ ft | Type of existing vegetation: ___________________________ | Slope: ________

If yes for stormwater:
Is stormwater currently controlled? □ Yes □ No □ Not investigated
Land Use description: ______________________________________
Area available: _______________________________________

<table>
<thead>
<tr>
<th>OUTFALL SEVERITY:</th>
<th>Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.</th>
<th>Small discharge; flow mostly clear and odorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor/l挡alized.</th>
<th>Outfall does not have dry weather discharge; staining; or appearance of causing any erosion problems.</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

SKETCH/NOTES: Next to culvert which carries stream under RR tracks

REPORTED TO AUTHORITIES: □ YES □ NO
### Storm Water Outfalls

**WATERSHED/SUBSHED:** FYB  
**DATE:** 11/30/09  
**ASSESSED BY:** GNR GSR

**SURVEY REACH ID:**  
**TIME:** ___ AM/PM  
**PHOTO ID:** (Camera-Pic #)  

**SITE ID (Condition #):** OT: B  
**LAT:** 41° 49' 30"  
**LONG:** 72° 43' 41"  
**LMK:**  
**GPS:** (Unit ID)

### Bank:
- [ ] ALT  
- [ ] RT  
- [ ] Head  

### Flow:
- [ ] None  
- [ ] Trickle  
- [ ] Moderate  
- [ ] Substantial  
- [ ] Other:

### Type:
- [ ] Open pipe  
- [ ] Closed pipe  

### Material:
- [ ] Concrete  
- [ ] Metal  
- [ ] PVC/Plastic  
- [ ] Brick  
- [ ] Other:

### Shape:
- [ ] Single  
- [ ] Circular  
- [ ] Double  
- [ ] Elliptical  
- [ ] Triple  
- [ ] Other:

### Dimensions:
- Diameter: (in)  
- Depth: (in)  
- Width (Top): (in)  
- Width (Bottom): (in)  

### Submerged:
- [ ] No  
- [ ] Partially  
- [ ] Fully  

### Condition:
- [ ] None  
- [ ] Chip/Cracked  
- [ ] Peeling Paint  
- [ ] Corrosion  
- [ ] Other:

### Odor:
- [ ] None  
- [ ] Gas  
- [ ] Sewage  
- [ ] Rancid/Sour  
- [ ] Sulfide  
- [ ] Other:

### Deposits/Stains:
- [ ] None  
- [ ] Oily  
- [ ] Flow Line  
- [ ] Paint  
- [ ] Other:

### Veggie Density:
- [ ] None  
- [ ] Normal  
- [ ] Inhibited  
- [ ] Excessive  
- [ ] Other:

### Potential Restoration Candidate:
- [ ] Discharge investigation  
- [ ] Stream daylighting  
- [ ] Local stream repair/outfall stabilization  
- [ ] Storm water retrofit  

#### If yes for daylighting:
- Length of vegetative cover from outfall: ___ ft  
- Type of existing vegetation: ___  
- Slope: ___

#### If yes for stormwater:
- Is stormwater currently controlled?  
- Land Use description:

### Outfall Severity:
- [ ] Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.  
- [ ] Small discharge; flow mostly clear and odorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor/localized.  
- [ ] Outfall does not have dry weather discharge; staining; or appearance of causing any erosion problems.

### Sketch/Notes:

**REPORTED TO AUTHORITIES:** [ ] YES  
[ ] NO
### Storm Water Outfalls

**Watershed/Subhed:** FY8

**Survey Reach ID:** [Please fill in]

**Site ID (Condition #):** OT- [Please fill in]

**Date:** 11/30/09  
**Assessed by:** CM/39

**Photo ID (Camera-Pic #):** 149300  
**Location #:** 07+07

**Bank:** [Please fill in: LT, RT, Head]

**Flow:**  
- None  
- Trickle  
- Moderate  
- Substantial  
- Other:

**Type:**  
- Closed pipe  
- Open channel

**Material:**  
- Concrete  
- Metal  
- PVC/Plastic  
- Brick  
- Other:

**Shape:** [Please fill in: Single, Circular, Double, Elliptical, Triple, Other]

**Dimensions:**  
- Diameter: [in]

**Submerged:**  
- No  
- Partially  
- Fully

**Condition:**  
- None  
- Chip/Cracked  
- Peeling Paint  
- Corrosion  
- Other:

**Odor:** [Please fill in: None, Gas, Sewage, Rancid/Sour, Sulfide, Other]

**Deposits/Stains:**  
- None  
- Oil  
- Flow Line  
- Paint  
- Other:

**Veggie Density:**  
- None  
- Normal  
- Inhibited  
- Excessive  
- Other:

**Pipe Benthic Growth:** [Please fill in: None, Brown, Orange, Green, Other]

**Pool Quality:** [Please fill in: None, Good, Odors, Colors, Oils, Suds, Algae, Floatables, Other]

**For Flowing Only:**  
- Color: [Please fill in: Clear, Brown, Grey, Yellow, Green, Orange, Red, Other]

**Turbidity:** [Please fill in: None, Slight Cloudiness, Cloudy, Opaque]

**Floating Object:** [Please fill in: None, Sewage (toilet paper, etc.), Petroleum (oil sheen), Other]

**Other Concerns:**  
- Excess Trash (paper/plastic bags)  
- Dumping (bulk)  
- Excessive Sedimentation  
- Needs Regular Maintenance  
- Bank Erosion  
- Other:

**Potential Restoration Candidate:**  
- Discharge investigation  
- Stream daylighting  
- Local stream repair/outfall stabilization  
- Storm water retrofit  
- Other:

**If yes for daylighting:**  
- Length of vegetative cover from outfall: [ft]  
- Type of existing vegetation:  
- Slope: [°]

**If yes for stormwater:**  
- Is stormwater currently controlled? [Yes, No, Not investigated]

**Outfall Severity:**  
- Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.

**Outfall does not have dry weather discharge; staining or appearance of causing any erosion problems.**

**Sketch/Notes:** [Please fill in]

**Reported to Authorities:** [Yes, No]
Stream Crossing

WATERSHED/SUBSHED: FYG

SURVEY REACH ID: [Blank]

TIME: 7:00 AM

PHOTO ID: [Blank]

SITE ID: (Condition #) SC-A

LAT 41° 49' 28" " LONG 12° 43' 41" " LMK

GPS (Unit ID)


For Road/ Railroad Crossings Only


MATERIAL: [Blank] Concrete [Blank] Metal [Blank] Other:


DIMENSIONS: (if variable, sketch)

Barrel diameter: [Blank] ft

Height: [Blank] ft

Culvert length: [Blank] ft

Width: [Blank] ft

Roadway elevation: [Blank] ft


IS SC ACTING AS GRADE CONTROL: [Blank] No [Blank] Yes [Blank] Unknown

EXTENT OF PHYSICAL BLOCKAGE:

[Blank] Total [Blank] Partial
[Blank] Temporary [Blank] Unknown

If yes for fish barrier

CAUSE:
[Blank] Drop too high Water Drop: [Blank] in
[Blank] Flow too shallow Water Depth: [Blank] in
[Blank] Other:

BLOCKAGE SEVERITY: (circle #)

A structure such as a dam or road culvert on a 3rd order or greater stream blocking the upstream movement of anadromous fish; no fish passage device present.

A total fish blockage on a tributary that would isolate a significant reach of stream, or partial blockage that may interfere with the migration of anadromous fish.

A temporary barrier such as a beaver dam or a blockage at the very head of a stream with very little viable fish habitat above it; natural barriers such as waterfalls.

NOTES/SKETCH:

REPORTED TO AUTHORITIES [Blank] Yes [Blank] No
**Stream Crossing**

**WATERSHED/SUBSHED:** FYB

**SURVEY REACH ID:** [Blank]

**DATE:** 1/1/09

**TIME:** AM/PM

**PHOTO ID:** (Camera-Pic #) 147300

**ASSESSMENT BY:** OM 164

**SITE ID:** (Condition #-) SC-8

**LAT:** 41° 49' 32"

**LONG:** 73° 42' 40"

**LMK:**

**GPS (Unit ID):**

**TYPE:** [ ] Road Crossing [ ] Railroad Crossing [ ] Manmade Dam [ ] Beaver Dam [ ] Geological Formation [ ] Other:

**FOR ROAD/ RAILROAD CROSSINGS ONLY**

**SHAPE:**
- [ ] Arch
- [ ] Bottomless
- [ ] Box
- [ ] Circular
- [ ] Other:

**# BARRELS:**
- [ ] Single
- [ ] Double
- [ ] Triple
- [ ] Other:

**MATERIAL:**
- [ ] Concrete
- [ ] Metal
- [ ] Other:

**ALIGNMENT:**
- [ ] Flow-aligned
- [ ] Not flow-aligned
- [ ] Do not know

**DIMENSIONS:** (if variable, sketch)

- [ ] Barrel diameter: ____ (ft)
- [ ] Height: ____ (ft)
- [ ] Culvert length: ____ (ft)
- [ ] Width: ____ (ft)
- [ ] Roadway elevation: ____ (ft)

**POTENTIAL RESTORATION CANDIDATE**
- [ ] Fish barrier removal
- [ ] Culvert repair/replacement
- [ ] Upstream storage retrofit
- [ ] No
- [ ] Local stream repair
- [ ] Other:

**IS SC ACTING AS GRADE CONTROL?**
- [ ] No
- [ ] Yes
- [ ] Unknown

**EXTENT OF PHYSICAL BLOCKAGE:**
- [ ] Total
- [ ] Partial
- [ ] Temporary
- [ ] Unknown

**If yes for fish barrier**

- [ ] Drop too high
- [ ] Water Drop: ____ (in)

- [ ] Flow too shallow
- [ ] Water Depth: ____ (in)

**CAUSE:**
- [ ] Other:

**BLOCKAGE SEVERITY:** (circle #)

- A structure such as a dam or road culvert on a 3rd order or greater stream blocking the upstream movement of anadromous fish; no fish passage device present.
- A total fish blockage on a tributary that would isolate a significant reach of stream, or partial blockage that may interfere with the migration of anadromous fish.
- A temporary barrier such as a beaver dam or a blockage at the very head of a stream with very little viable fish habitat above it; natural barriers such as waterfalls.

**Notes/Sketch:**

There are 3 barrels on the upstream side of the culvert. We assume, therefore, that the 18" barrel is stormwater.
**Watershed/Subshed:** FYB  
**Date:** 1/30/29  
**Assessed By:** GS + CM

**Survey Reach ID:** 1  
**Time:** __:__ AM/PM  
**Photo ID:** (Camera-Pic #:) 147300 # 05

**Site ID:** (Condition #:) #MK  
**Lat:**  41°30'43.02"  
**Long:** 59°01'43.81"  
**LMK:**  
**GPS:** (Unit ID)

<table>
<thead>
<tr>
<th>Type:</th>
<th>Material:</th>
<th>Source:</th>
<th>Location:</th>
<th>Land Ownership:</th>
<th>Amount (# Pickup truck loads):</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Industrial</td>
<td>☑ Plastic</td>
<td>☑ Unknown</td>
<td>Stream</td>
<td>☐ Public</td>
<td>2 or 3</td>
</tr>
<tr>
<td>☐ Commercial</td>
<td>☑ Tires</td>
<td>☑ Stream</td>
<td>Riparian Area</td>
<td>☐ Private</td>
<td></td>
</tr>
<tr>
<td>☐ Residential</td>
<td>☑ Appliances</td>
<td>☑ Flood</td>
<td>Lt bank</td>
<td>☑ Unknown</td>
<td></td>
</tr>
<tr>
<td>☑ Automotive</td>
<td>☑ Yard Waste</td>
<td>☑ Illegal dump</td>
<td>Rt bank</td>
<td>☐ Unknown</td>
<td></td>
</tr>
</tbody>
</table>

**Potential Restoration Candidate:** ☑ Stream cleanup ☑ Stream adoption segment ☐ Removal/prevention of dumping

**If yes for trash or debris removal:**

<table>
<thead>
<tr>
<th>Equipment Needed:</th>
<th>Dumpster within 100 ft:</th>
</tr>
</thead>
<tbody>
<tr>
<td>☑ Trash bags</td>
<td>☐ Yes</td>
</tr>
<tr>
<td>☑ Unknown</td>
<td>☑ Other</td>
</tr>
</tbody>
</table>

**Who Can Do It:** ☑ Volunteers ☐ Local Gov ☐ Hazmat Team ☐ Other

**Clean-up Potential:**

<table>
<thead>
<tr>
<th>Clean-up Potential: (Circle #)</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ A small amount of trash (i.e., less than two pickup truck loads) located inside a park with easy access</td>
</tr>
<tr>
<td>☑ A large amount of trash, or bulk items, in a small area with easy access. Trash may have been dumped over a long period of time but it could be cleaned up in a few days, possibly with a small backhoe.</td>
</tr>
</tbody>
</table>

**Notes:**

Oil bottles, plastic bottles, shopping carts, tires, parts of a Nissan which apparently crashed and was poorly cleaned up, etc. The Nissan was next to Park Ave.

**Reported to Authorities:** ☐ Yes ☐ No
SURVEY REACH ID: 2
WTRSH/SSHD: FYB
DATE: 1/24/08
ASSESS BY: CMY B6

START TIME: 3:25 AM
LMK: LAT 41° 48' 55"
LONG 72° 43' 39"
DESCRIPTION: Junction W11 WBS

END TIME: 4:20 AM
LMK: LAT 41° 49' 00"
LONG 72° 43' 40"
DESCRIPTION: Cottage curve Rd. Underpass/Culvert

RAIN IN LAST 24 HOURS
- None
- Intermittent
- Steady rain
- Heavy rain

PRESENT CONDITIONS
- Intermittent
- Clear
- Trace
- Overcast
- Partly cloudy

SURROUNDING LAND USE
- Industrial
- Commercial
- Golf course
- Park
- Urban/Residential
- Suburban/Res
- Forested
- Institutional
- Other: Retirement Community

AVERAGE CONDITIONS
- Base Flow as %
  - 0-25%
  - 50-75%
  - 75-100%
- Channel Width
  - 25-50%
  - 75-100%

DOMINANT SUBSTRATE
- Silt/clay (fine or slick)
- Sand (gritty)
- Gravel (0.1-2.5"
- Cobble (2.5-10"
- Boulder (>10"
- Bed rock

WATER CLARITY
- Clear
- Turbid (suspended matter)
- Stained (clear, naturally colored)
- Opaque (milky)
- Other (chemicals, dyes)

AQUATIC PLANTS IN STREAM
- Attached: none
- Some
- Lots
- Floating: none
- Some
- Lots

WILDLIFE IN OR AROUND STREAM
- Evidence of:
  - Fish
  - Beaver
  - Deer
  - Snails
  - Other:

STREAM SHADING
- Mostly shaded (>75% coverage)
- Halfway (50%)
- Partially shaded (>25%)
- Unshaded (<25%)

CHANNEL DYNAMICS
- Downcutting
- Widening
- Headcutting
- Aggrading
- Sed. deposition
- Bed scour
- Bank failure
- Bank scour
- Slope failure
- Channelized

CHANNEL DIMENSIONS
- Height: LT bank
- RT bank
- Top
- Width: Bottom

REACH ACCESSIBILITY
- Good: Open area in public ownership, sufficient room to stockpile materials, easy stream channel access for heavy equipment using existing roads or trails.
- Fair: Forested or developed area adjacent to stream. Access requires tree removal or impact to landscaped areas. Stockpile areas small or distant from stream.
- Difficult: Must cross wetland, steep slope, or sensitive areas to get to stream. Few areas to stockpile available and located a great distance from stream. Specialized heavy equipment required.

5 3 2 1

STORMWATER RUNOFF NOT WELL MANAGED

REPORTED TO AUTHORITIES
- Yes
- No
<table>
<thead>
<tr>
<th>Habitat</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-stream Habitat (May modify criteria based on appropriate habitat regime)</td>
<td>Greater than 70% of substrate favorable for epiphytial colonization and fish cover; mix of snags, submerged logs, undercut banks, cobbles or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).</td>
<td>40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).</td>
<td>20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.</td>
<td>Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.</td>
</tr>
<tr>
<td>Vegetative Protection (score each bank, determine sides facing downstream)</td>
<td>More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.</td>
<td>70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented: disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.</td>
<td>50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.</td>
<td>Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stable height.</td>
</tr>
<tr>
<td>Bank Erosion (facing downstream)</td>
<td>Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. &lt;5% of bank affected.</td>
<td>Grade and width stable; isolated areas of bank failure/erosion; likely caused by a pipe outlet, local scour, impaired riparian vegetation or adjacent use.</td>
<td>Past downcutting evident, active stream widening, banks actively eroding at a moderate rate, no threat to property or infrastructure.</td>
<td>Active downcutting; tail banks on both sides of the stream eroding at a fast rate; erosion contributing significant amount of sediment to stream; obvious threat to property or infrastructure.</td>
</tr>
<tr>
<td>Floodplain Connection</td>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched.</td>
<td>High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched.</td>
</tr>
</tbody>
</table>

**OVERALL BUFFER AND FLOODPLAIN CONDITION**

<table>
<thead>
<tr>
<th>Vegetated Buffer Width</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width of buffer zone &gt;50 feet; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, crops) have not impacted zone.</td>
<td>Width of buffer zone 25-50 feet; human activities have impacted zone only minimally.</td>
<td>Width of buffer zone 10-25 feet; human activities have impacted zone a great deal.</td>
<td>Width of buffer zone &lt;10 feet; little or no riparian vegetation due to human activities.</td>
<td></td>
</tr>
<tr>
<td>Left Bank</td>
<td>Right Bank</td>
<td>8</td>
<td>7</td>
<td>6</td>
</tr>
</tbody>
</table>

**Floodplain Vegetation**

<table>
<thead>
<tr>
<th>Predominant floodplain vegetation type</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Predominant floodplain vegetation type is mature forest</td>
<td>Predominant floodplain vegetation type is young forest</td>
<td>Predominant floodplain vegetation type is shrub or old field</td>
<td>Predominant floodplain vegetation type is turf or crop land</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
</tr>
</tbody>
</table>

**Floodplain Habitat**

<table>
<thead>
<tr>
<th>Predominant floodplain enclosure in the form of fill material, land development, or manmade structures</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor floodplain enclosure in the form of fill material, land development, or manmade structures, some effect on floodplain function</td>
<td>Moderate floodplain enclosure in the form of filling, land development, or manmade structures, some effect on floodplain function</td>
<td>Significant floodplain enclosure (i.e. fill material, land development, or man-made structures). Significant effect on floodplain function</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
</tr>
</tbody>
</table>

**Sub Total In-stream:** 102 / 80 + Buffer/Floodplain: 55 / 80 = Total Survey Reach 97 / 160
**Severe Bank Erosion**

**Watershed/Subshed:** FYB

**Survey Reach:** 1

**Site ID:** (Condition #) [ER-ent sheet]

**Start Lat:** 41° 48.58" N  **Long:** 72° 43.37" W  **LMK**

**End Lat:**  **" Long:**  **" LMK

**Photo ID:** (Camera PIC #):

**Time:** 3:25 AM 15  **Date:** 11/24/07  **Assessed by:** CM T & G

**Photo ID:** (Unit ID)

**Process:**  
- [ ] Currently unknown
- [ ] Downcutting
- [ ] Widening
- [ ] Headcutting
- [ ] Aggrading
- [ ] Sed. deposition
- [ ] Channelized

**Bank of Concern:**  
- [ ] LT
- [ ] RT
- [ ] Both (looking downstream)

**Location:**  
- [ ] Meander bend
- [ ] Straight section
- [ ] Steep slope/valley wall
- [ ] Other:

**Dimensions:**
- Length (if no GPS) LT _____ ft and/or RT _____ ft
- Bank Ht LT _____ ft and/or RT _____ ft
- Bank Angle LT _____ ° and/or RT _____ °
- Bottom width _____ ft
- Top width _____ ft
- Wetted Width _____ ft

**Potential Restoration Candidate:**
- [ ] No
- [ ] Grade control
- [ ] Bank stabilization
- [ ] Stormwater control / Minimize flashiness
- [ ] Other:

**Threat to Property/Infrastructure:**
- [ ] No
- [ ] Yes (Describe): ________________________________

**Existing Riparian Width:**
- [ ] <25 ft
- [ ] 25 - 50 ft
- [ ] 50 - 75 ft
- [ ] 75 - 100 ft
- [ ] >100 ft

**Erosion Severity:**
- [ ] Channelized

- [ ] 1

**Access:**
- [ ] Good access: Open area in public ownership, sufficient room to stackpile materials, easy stream channel access for heavy equipment using existing roads or trails.
- [ ] Fair access: Forested or developed area adjacent to stream. Access requires tree removal or impact to landscaped areas. Stockpile areas small or distant from stream.
- [ ] Difficult access: Must cross wetland, steep slope or other sensitive areas to access stream. Minimal stockpile areas available and/or located a great distance from stream section. Specialized heavy equipment required.

**Notes/Cross Section Sketch:**

Minor slope failure at junction of FYB3+.

WBS. Adjacent to senior living facility & access could be fairly easy. There is a chain link fence along portions of both banks, though.
Reach Level Assessment

**SURVEY REACH ID:** FyB
**WTRSHD/SUBSHD:** FyB
**DATE:** 11/30/09
**ASSESS BY:** UM
**GPS ID:** UM

**START TIME:** 7:55 AM
**END TIME:** 10:30 AM
**LMK:**

**LAT:** 41° 49' 28" **LONG:** 72° 43' 41"
**DESCRIPTION:** Railroad tracks/culvert

**RAIN IN LAST 24 HOURS:**
- [ ] Heavy rain
- [ ] Steady rain
- [ ] Intermittent
- [ ] Trace
- [ ] Overcast
- [ ] Partly cloudy

**SURROUNDING LAND USE:**
- [ ] Industrial
- [ ] Commercial
- [ ] Golf course
- [ ] Park
- [ ] Urban/Residential
- [ ] Suburban/Res
- [ ] Forested
- [ ] Institutional
- [ ] Agricultural
- [ ] Other: 

**AVERAGE CONDITIONS:**

<table>
<thead>
<tr>
<th>Base Flow as %</th>
<th>0-25%</th>
<th>25-50%</th>
<th>50-75%</th>
<th>75-100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Channel Width</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**DOMINANT SUBSTRATE:**
- [ ] Silts/clay (fine or slick)
- [ ] Sand (gritty)
- [ ] Gravel (0.1-2.5"
- [ ] Bed rock

**WATER CLARITY:**
- [ ] Clear
- [ ] Turbid (suspended matter)
- [ ] Stained (clear, naturally colored)
- [ ] Opaque (milky)
- [ ] Other (chemicals, dyes)

**AQUATIC PLANTS IN STREAM:**
- [ ] Attached: none
- [ ] Floating: none

**WILDLIFE IN OR AROUND STREAM:**
- [ ] Fish
- [ ] Beaver
- [ ] Deer
- [ ] Snails
- [ ] Other:

**STREAM SHADING:**
- [ ] Mostly shaded (≥75% coverage)
- [ ] Halfway (≥50%)
- [ ] Partially shaded (≥25%)
- [ ] Unshaded (< 25%)

**CHANNEL DYNAMICS:**
- [ ] Downcutting
- [ ] Widening
- [ ] Headcutting
- [ ] Aggrading
- [ ] Bed scour
- [ ] Bank failure
- [ ] Bank erosion
- [ ] Slope failure

**REACH SKETCH AND SITE IMPACT TRACKING:**

Simple planar sketch of survey reach. Track locations and IDs for all site impacts within the survey reach (OT, ER, IB, SC, UT, TR, MI) as well as any additional features deemed appropriate. Indicate direction of flow.
**Watershed/Subshed:** FYB

**Survey Reach ID:** 2

**Time:** AM/PM

**Photo ID:** (Camera-File #) 0640 # 080 + 082

**Site ID:** (Condition #) TR-04x

**Lat:** 41° 48' 59" **Long:** 72° 43' 38"

**LMK:**

**GPS:** (Unit ID)

**Type:**
- [X] Residential
- [ ] Industrial
- [ ] Commercial

**Material:**
- [X] Plastic
- [X] Paper
- [ ] Metal
- [ ] Tires
- [ ] Construction
- [ ] Medical
- [ ] Appliances
- [ ] Yard Waste
- [ ] Automotive
- [ ] Other:

**Source:**
- [ ] Unknown
- [ ] Flooding
- [ ] Illegal dump
- [X] Local outfall

**Location:**
- [X] Stream
- [X] Riparian Area

**Land Ownership:**
- [ ] Public
- [ ] Unknown
- [ ] Private

**Amount (# Pickup truck loads):** 2 or 3

**Potential Restoration Candidate:**
- [X] Stream cleanup
- [ ] Stream adoption segment
- [X] Removal/prevention of dumping

**If yes for trash or debris removal:**
- [ ] Yes
- [ ] No

**Equipment Needed:**
- [ ] Heavy equipment
- [X] Trash bags
- [ ] Unknown

**Who Can Do It:**
- [X] Volunteers
- [ ] Local Gov
- [ ] Hazmat Team
- [ ] Other

**Clean-Up Potential:**
- [ ] Yes
- [ ] No

**Notes:** Local outfall - Adjacent to dumpster and parking lot in fairly urban area. Stream reach is in between a senior living center and apartment building.

**Reported to Authorities:**
- [ ] Yes
- [ ] No
Storm Water Outfalls

<table>
<thead>
<tr>
<th>WATERSHED/SUBSHED:</th>
<th>FYB</th>
</tr>
</thead>
<tbody>
<tr>
<td>SURVEY REACH ID:</td>
<td>D</td>
</tr>
<tr>
<td>SITE ID (Condition #):</td>
<td>OT-A</td>
</tr>
</tbody>
</table>

**Date:** 1/24/09  **Assessed by:** CML/BG

**Photo ID:** (Camera-Pic #) # /#

**Time:** AM/PM

**BANK:**
- LT [ ]
- RT [ ]
- Both [ ]
- Head [ ]

**FLOW:**
- None [ ]
- Trickle [ ]
- Moderate [ ]
- Substantial [ ]
- Other [ ]

**TYPE:**
- Closed pipe [ ]
- Open channel [ √ ]
- Other [ ]

**MATERIAL:**
- Concrete [ ]
- Metal [ ]
- PVC/Plastic [ ]
- Brick [ ]
- Other: [ ]

**SHAPE:**
- Single [ ]
- Circular [ ]
- Double [ ]
- Elliptical [ ]
- Triple [ ]
- Other: [ ]

**DIMENSIONS:**
- Diameter: (in) [ ]
- Depth: (in) [ ]
- Width (Top): (in) [ ]
- (Bottom): (in) [ ]

**SUBMERGED:**
- No [ ]
- Partially [ ]
- Fully [ ]

**CONDITION:**
- None [ ]
- Chip/Cracked [ ]
- Peeling Paint [ ]
- Corrosion [ ]
- Other: [ ]

**ODOR:**
- Gas [ ]
- Sewage [ ]
- Rancid/Soar [ ]
- Sulfide [ ]
- Other: [ ]

**DEPOSITS/STAINS:**
- None [ ]
- Oily [ ]
- Flow Line [ ]
- Paint [ ]
- Other: [ ]

**VEGGIE DENSITY:**
- None [ ]
- Normal [ ]
- Inhibited [ ]
- Excessive [ ]
- Other: [ ]

**PIPE BENTHIC GROWTH:**
- None [ √ ]
- Brown [ ]
- Orange [ ]
- Green [ ]
- Other: [ ]

**POOL QUALITY:**
- No pool [ √ ]
- Good [ ]
- Odors [ ]
- Colored [ ]
- Oils [ ]
- Suds [ ]
- Algae [ ]
- Floatables [ ]
- Other: [ ]

**For Flowing Only:**
- Color: [ ]
- Clear [ ]
- Brown [ ]
- Grey [ ]
- Yellow [ ]
- Green [ ]
- Orange [ ]
- Red [ ]
- Other: [ ]

- Turbidity: [ ]
- None [ ]
- Slight Cloudiness [ ]
- Cloudy [ ]
- Opaque [ ]
- Other: [ ]

- Floatables: [ ]
- None [ ]
- Sewage (toilet paper, etc.) [ ]
- Petroleum (oil sheen) [ ]
- Other: [ ]

**Other Concerns:**
- Excess Trash (paper/plastic bags) [ √ ]
- Dumping (bulk) [ ]
- Excessive Sedimentation [ ]
- Needs Regular Maintenance [ ]
- Bank Erosion [ ]
- Other: [ ]

**Potential Restoration Candidate:**
- Discharge investigation [ ]
- Stream daylighting [ ]
- Local stream repair/outfall stabilization [ √ ]
- Storm water retrofit [ ]
- Other: [ ]

**If yes for daylighting:**
- Length of vegetative cover from outfall: _________ ft
- Type of existing vegetation: __________________
- Slope: _________

**If yes for stormwater:**
- Is stormwater currently controlled? [ ]
- Yes [ ]
- No [ ]
- Not investigated [ ]

- Land Use description: Peeling/building (Note ?)

**Outfall Severity:**
- (circle #)
- Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.
- Small discharge; flow mostly clear and odorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor/localized.

<table>
<thead>
<tr>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
</table>

**Sketch/Notes:** Poorly designed stormwater flow parking lot.

**Reported to authorities:** [ ] YES [ ] NO
**Storm Water Outfalls**

**WATERSHED/SUBSHED:** EVB

**SURVEY REACH ID:** 2

**SITE ID (Condition #):** OT

**DATE:** 11/24/09

**ASSESSED BY:** CM + BS

**TIME:** __ AM/PM

**PHOTO ID:** (Camera-Pic #) __/#

**LAT:** __

**LONG:** __

**LMK:** __

**GPS:** (Unit ID)

**BANK:** See Below

- LT
- RT
- Head

**FLOW:**
- None
- Trickle
- Moderate
- Substantial
- Other:

**TYPE:**
- Closed pipe
- Open channel

**MATERIAL:**
- Concrete
- Metal
- PVC/Plastic
- Brick
- Other:

**SHAPE:**
- Single
- Circular
- Double
- Elliptical
- Triple
- Other:

**DIMENSIONS:**
- Diameter: 1/3 (in)
- Width (Top):
- Depth:
- (in)
- "(Bottom):

**SUBMERGED:**
- No
- Partially
- Fully

**CONDITION:**
- None
- Chip/Cracked
- Peeling Paint
- Corrosion
- Other:

**ODOR:**
- No
- Gas
- Sewage
- Rancid/Sour
- Sulfide
- Other:

**DEPOSITS/STAINS:**
- None
- Oily
- Flow Line
- Paint
- Other:

**VEGIE DENSITY:**
- None
- Normal
- Inhibited
- Excessive
- Other:

**PIPE BENTHIC GROWTH:**
- None
- Brown
- Orange
- Green
- Other:

**POOL QUALITY:**
- No pool
- Good
- Odors
- Colors
- Oils
- Suds
- Algae
- Floatables
- Other:

**COLOR:**
- Clear
- Brown
- Grey
- Yellow
- Green
- Orange
- Red
- Other

**TURBIDITY:**
- None
- Slight Cloudiness
- Cloudy
- Opaque

**FLOATABLES:**
- None
- Sewage (toilet paper, etc.)
- Petroleum (oil sheen)
- Other

**OTHER CONCERNS:**
- Excess Trash (paper/plastic bags)
- Dumping (bulk)
- Excessive Sedimentation
- Needs Regular Maintenance
- Bank Erosion
- Other:

**For Flowing Only**

**POTENTIAL RESTORATION CANDIDATE**
- Discharge investigation
- Stream daylighting
- Local stream repair/oufall stabilization
- Storm water retrofit
- Other:

**If yes for daylighting:**
- Length of vegetative cover from outfall: __________ ft
- Type of existing vegetation: __________
- Slope: __________

**If yes for stormwater:**
- Is stormwater currently controlled?
  - Yes
  - No
  - Not investigated

- Land Use description: Park/Building (Apartment 5?)
- Area available:

**OUTFALL SEVERITY:**

- Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.
- Small discharge; flow mostly clear and odorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor/localized.
- Outfall does not have dry weather discharge, staining, or appearance of causing any erosion problems.

**5 4 3 2 1**

**OUTFALL SEVERITY:** (circle #)

**SKETCH/NOTES:**

- [Diagram of outfall location and nearby buildings]

- Reported to authorities: Yes

- Stormwater inputs: __________
**Stream Crossing**

**WATERSHED/SUBSHED:** FN

**SURVEY REACH ID:** 2

**SITE ID:** (Condition #)  SC-02

**LAT:** 41° 49' 00" **LONG:** 73° 42' 40" **LMK:**

**GPS (Unit ID):**

**TYPE:** [ ] Road Crossing  [ ] Railroad Crossing  [ ] Manmade Dam  [ ] Beaver Dam  [ ] Geological Formation  [ ] Other:

**SHAPE:**
- [ ] Arch
- [ ] Box
- [ ] Circular
- [ ] Elliptical
- [ ] Other:

**BARRELS:**
- [ ] Single
- [ ] Double
- [ ] Triple
- [ ] Other:

**MATERIAL:**
- [ ] Concrete
- [ ] Metal
- [ ] Other:

**ALIGNMENT:**
- [ ] Flow-aligned
- [ ] Not flow-aligned
- [ ] Do not know

**DIMENSIONS:** (if variable, sketch)
- Barrel diameter: ________(ft)
- Height: ________(ft)
- Culvert length: ________(ft)
- Width: ________(ft)
- Roadway elevation: ________(ft)

**CONDITION:** (Evidence of...)
- [ ] Cracking/chipping/corrosion
- [ ] Downstream scour hole
- [ ] Sediment deposition
- [ ] Failing embankment
- [ ] Other (describe):

**CULVERT SLOPE:**
- [ ] Flat
- [ ] Slight (2° - 5°)
- [ ] Obvious (>5°)

**POTENTIAL RESTORATION CANDIDATE**
- [ ] Fish barrier removal
- [ ] Culvert repair/replacement
- [ ] Upstream storage retrofit
- [ ] no
- [ ] Local stream repair
- [ ] Other: remove sediment

**IS SC ACTING AS GRADE CONTROL**
- [ ] No
- [ ] Yes
- [ ] Unknown

**EXTENT OF PHYSICAL BLOCKAGE:**
- [ ] Total
- [ ] Partial
- [ ] Temporary
- [ ] Unknown

**If yes for fish barrier CAUSE:**
- [ ] Drop too high  Water Drop: ______(in)
- [ ] Flow too shallow  Water Depth: ______(in)
- [ ] Other:

**BLOCKAGE SEVERITY:** (circle #)

A structure such as a dam or road culvert on a 3rd order or greater stream blocking the upstream movement of anadromous fish; no fish passage device present.

A total fish blockage on a tributary that would isolate a significant reach of stream, or partial blockage that may interfere with the migration of anadromous fish.

A temporary barrier such as a beaver dam or a blockage at the very head of a stream with very little viable fish habitat above it; natural barriers such as waterfalls.

**NOTES/SKETCH:** excess sediment.

**REPORTED TO AUTHORITIES** [ ] Yes  [ ] No
SURVEY REACH ID: 3
WTRSH/SubID: FY6
DATE: 11/30/07
ASSESS BY: OCM/BSC

START
TIME: 8:15 AM
LMK:
LAT: 41° 49' 40" N
LONG: 73° 43' 40"
DESCRIPTION: RR, 2/8 culvert crossing

END
TIME: 3:55 PM
LMK:
LAT: 41° 49' 38" N
LONG: 73° 43' 41"
DESCRIPTION: RR, 18" culvert cross

RAIN IN LAST 24 HOURS: □ None
☑ Heavy rain
☐ Steady rain

PRESENT CONDITIONS: □ None
☑ Heavy rain
☐ Steady rain
☐ Intermittent
☐ Clear
☐ Trace
☐ Overcast
☐ Partly cloudy

SURROUNDING LAND USE: □ Industrial
□ Commercial
□ Golf course
□ Park
□ Urban/Residential
☑ Suburban/Residential
☑ Forested
□ Institutional
□ Crop
□ Pasture
□ Other:

AVG CONDITIONS (check applicable)
□ Base flow as %
☐ 0-25%
☐ 25-50%
☑ 50-75%
☐ 75-100%

□ Channel width
☐ 0-25%
☐ 25-50%
☑ 50-75%
☐ 75-100%

DOMINANT SUBSTRATE
□ Silt/clay (fine or slick)
☐ Sand (gritty)
□ Gravel (0.1-2.5")
☐ Cobble (2.5-10")
☐ Boulder (>10")
☐ Bed rock

WATER CLARITY
□ Clear
☑ Turbid (suspended matter)
□ Stained (clear, naturally colored)
☐ Opaque (milky)
□ Other (chemicals, dye)

AQUATIC PLANTS
□ Attached:
☐ none
☑ some
□ lots
□ Floating:
☐ none
☑ some
□ lots

WILDLIFE INT OR AROUND STREAM
□ Fish
□ Beaver
□ Deer
□ Snails
□ Other:

STREAM SHADING (water surface)
☑ Mostly shaded (≥75% coverage)
□ Halfway (≥50%)
□ Partially shaded (<25%)
□ Unshaded (<25%)

CHANNEL DYNAMICS
□ Downcutting
□ Widening
□ Headcutting
□ Aggrading
□ Sed. deposition
☑ Bed scour
□ Bank failure
□ Bank scour
□ Slope failure
□ Channelized

CHANNEL DIMENSIONS
□ Height:
☐ LT bank
□ RT bank
□ Width:
☐ Bottom
□ Top

REACH ACCESSIBILITY
□ Good: Open area in public ownership, sufficient room to stockpile materials, easy stream channel access for heavy equipment using existing roads or trails.
□ Fair: Forested or developed area adjacent to stream. Access requires tree removal or impact to landscaped areas. Stockpile areas small or distant from stream.
□ Difficult: Must cross wetland, steep slope, or sensitive areas to get to stream. Few areas to stockpile available and/or located a great distance from stream. Specialized heavy equipment required.

NOTES:
□ (biggest problem you see in survey reach)
□ Impacted: issues, areas of concern, invasive plants, lots of sediment inputs, nutrients, areas of rip-rap (right bank)
□ Behind residential neighborhood

REPORTED TO AUTHORITIES □ Yes □ No
## OVERALL STREAM CONDITION

<table>
<thead>
<tr>
<th></th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IN-STREAM HABITAT</strong> (May modify criteria based on appropriate habitat regime)</td>
<td>Greater than 70% of substrate favorable for optimal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).</td>
<td>40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).</td>
<td>20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.</td>
<td>Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.</td>
</tr>
<tr>
<td></td>
<td>20 19 18 17 16</td>
<td>15 14 13 12 11</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1 0</td>
</tr>
<tr>
<td><strong>VEGETATIVE PROTECTION</strong> (score each bank, determine sides by facing downstream)</td>
<td>More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.</td>
<td>70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stable height remaining.</td>
<td>50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stable height remaining.</td>
<td>Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stable height.</td>
</tr>
<tr>
<td></td>
<td>Left Bank 10 9</td>
<td>8 7 6</td>
<td>5 4 3</td>
<td>2 1 0</td>
</tr>
<tr>
<td></td>
<td>Right Bank 10 9</td>
<td>8 7 6</td>
<td>5 4 3</td>
<td>2 1 0</td>
</tr>
<tr>
<td><strong>BANK EROSION</strong> (facing downstream)</td>
<td>Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. &lt;5% of bank affected.</td>
<td>Grade and width stable; isolated areas of bank failure/erosion; likely caused by a pipe outfall, local scour, impaired riparian vegetation or adjacent use.</td>
<td>Past downcutting evident, active stream widening, banks actively eroding at a moderate rate; no threat to property or infrastructure.</td>
<td>Active downcutting; tall banks on both sides of the stream eroding at a fast rate; erosion contributing significant amount of sediment to stream; obvious threat to property or infrastructure.</td>
</tr>
<tr>
<td></td>
<td>Left Bank 10 9</td>
<td>8 7 6</td>
<td>4 3</td>
<td>2 1 0</td>
</tr>
<tr>
<td></td>
<td>Right Bank 10 9</td>
<td>8 7 6</td>
<td>4 3</td>
<td>2 1 0</td>
</tr>
<tr>
<td><strong>FLOODPLAIN CONNECTION</strong></td>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched.</td>
<td>High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched.</td>
</tr>
<tr>
<td></td>
<td>20 19 18 17 16</td>
<td>15 14 13 12 11</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1 0</td>
</tr>
</tbody>
</table>

## OVERALL BUFFER AND FLOODPLAIN CONDITION

<table>
<thead>
<tr>
<th></th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VEGETATED BUFFER WIDTH</strong></td>
<td>Width of buffer zone &lt;50 feet; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, crops) have not impacted zone.</td>
<td>Width of buffer zone 25-50 feet; human activities have impacted zone only minimally.</td>
<td>Width of buffer zone 10-25 feet; human activities have impacted zone a great deal.</td>
<td>Width of buffer zone &lt;10 feet, little or no riparian vegetation due to human activities.</td>
</tr>
<tr>
<td></td>
<td>Left Bank 10 9</td>
<td>8 7 6</td>
<td>5 4 3</td>
<td>2 1 0</td>
</tr>
<tr>
<td></td>
<td>Right Bank 10 9</td>
<td>8 7 6</td>
<td>5 4 3</td>
<td>2 1 0</td>
</tr>
<tr>
<td><strong>FLOODPLAIN VEGETATION</strong></td>
<td>Predominant floodplain vegetation type is mature forest</td>
<td>Predominant floodplain vegetation type is young forest</td>
<td>Predominant floodplain vegetation type is shrub or old field</td>
<td>Predominant floodplain vegetation type is turf or crop land</td>
</tr>
<tr>
<td></td>
<td>20 19 18 17 16</td>
<td>15 14 13 12 11</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1 0</td>
</tr>
<tr>
<td><strong>FLOODPLAIN HABITAT</strong></td>
<td>Even mix of wetland and non-wetland habitats, evidence of standing/ponded water</td>
<td>Even mix of wetland and non-wetland habitats, no evidence of standing/ponded water</td>
<td>Either all wetland or all non-wetland habitat, evidence of standing/ponded water</td>
<td>Either all wetland or all non-wetland habitat, no evidence of standing/ponded water</td>
</tr>
<tr>
<td></td>
<td>20 19 18 17 16</td>
<td>15 14 13 12 11</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1 0</td>
</tr>
<tr>
<td><strong>FLOODPLAIN ENCROachment</strong></td>
<td>No evidence of floodplain encroachment in the form of fill material, land development, or mankind structures, but not affecting floodplain function</td>
<td>Minor floodplain encroachment in the form of fill material, land development, or mankind structures, but not affecting floodplain function</td>
<td>Moderate floodplain encroachment in the form of filling, land development, or mankind structures, some effect on floodplain function</td>
<td>Significant floodplain encroachment (i.e., fill material, land development, or mankind structures), Significant effect on floodplain function</td>
</tr>
<tr>
<td></td>
<td>20 19 18 17 16</td>
<td>15 14 13 12 11</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1 0</td>
</tr>
</tbody>
</table>

Sub Total In-stream: 51/80 + Buffer/Floodplain: 54/80 = Total Survey Reach 105/160
**Stream Crossing**

**Watershed/Subshed:** FG

**Survey Reach ID:** 3

**Site ID:** SC

**Date:** 7/30/09

**Time:** 8:15 AM

**Photo ID:** Camera-Pic #

**Assessed By:** CM + KG

**Location:**
- **Lat:** 41°49′02″
- **Long:** 43°40′54″
- **LMK:**
- **GPS (Unit ID):**

**Type:***
- [x] Road Crossing
- [ ] Railroad Crossing
- [ ] Manmade Dam
- [ ] Beaver Dam
- [ ] Geological Formation
- [ ] Other:

**Shape:**
- [ ] Arch
- [ ] Bottomless
- [x] Box
- [ ] Elliptical
- [ ] Circular
- [ ] Other:

**For Road/Railroad Crossings Only**

**Condition:**
- [x] Cracking/chipping/corrosion
- [x] Sediment deposition
- [ ] Other (describe):

**Barrels:**
- [x] Single
- [x] Double
- [ ] Triple
- [ ] Other:

**Material:**
- [ ] Concrete
- [ ] Metal
- [ ] Other:

**Alignment:**
- [x] Flow-aligned
- [ ] Not flow-aligned
- [ ] Do not know

**Dimensions:**
- **Barrel diameter:** ______ (ft)
- **Height:** ______ (ft)
- **Culvert length:** ______ (ft)
- **Width:** ______ (ft)
- **Roadway elevation:** ______ (ft)

**Potential Restoration Candidate:**
- [ ] Fish barrier removal
- [x] Culvert repair/replacement
- [ ] Upstream storage retrofit
- [ ] Local stream repair
- [ ] Other: sediment removal

**Is SC Acting as Grade Control:**
- [ ] No
- [ ] Yes
- [ ] Unknown

**Extent of Physical Blockage:**
- [x] Total
- [ ] Partial left bay
- [ ] Temporary
- [ ] Unknown

**Cause:**
- [ ] Drop too high
- [ ] Water Drop: ______ (in)
- [ ] Flow too shallow
- [ ] Water Depth: ______ (in)
- [ ] Other:

**Blockage Severity:**
- [ ] A structure such as a dam or road culvert on a 3rd order or greater stream blocking the upstream movement of anomalous fish; no fish passage device present.
- [x] A total fish blockage on a tributary that would isolate a significant reach of stream, or partial blockage that may interfere with the migration of anomalous fish.
- [ ] A temporary barrier such as a beaver dam or a blockage at the very head of a stream with very little viable fish habitat above it; natural barriers such as waterfalls.

**Notes/Sketch:**

"Cannot see light through tunnel (will not be used by wildlife including turtles can still be used by fish). Left bay of 2-bay culvert is clogged with sediment 1 flow is restricted to right bay only. Culvert goes under R, 218/4-lane highway."
Storm Water Outfalls

WATERSHED/SUBSHED: FYB

DATE: 1/30/07

SURVEY REACH ID: 3

TIME: 8:19 - 8:25 AM

PHOTO ID: (Camera-Pic #)

ASSESSED BY: CNC/BE

SITE ID: (Condition #: OT)

GPS: (Unit ID)

LAT ___ LONG ___ LMK ___

BANK: [□] Left [□] Right [□] Head

FLOW: [□] None [□] Trickle [□] Moderate [□] Substantial [□] Other:

TYPE: [□] Closed pipe [□] Other:

MATERIAL: [□] Concrete [□] Metal [□] PVC/Plastic [□] Brick [□] Other:

SHAPE: [X] Single [□] Elliptical [□] Triple [□] Other:

DIMENSIONS: [□] Diameter: ___ (in) [□] Elevation: ___

SUBMERGED: [□] No [□] Partially [□] Fully [□] NOT APPLICABLE

CONDITION: [□] None [□] Chip/Cracked [□] Peeling Paint [□] Corrosion [□] Other:

ODOR: [X] No [□] Gas [□] Sewage [□] Rancid/Sour [□] Sulfide [□] Other:

DEPOSITS/STAINS: [□] None [□] Oily [□] Flow Line [□] Paint [□] Other:

VEGGIE DENSITY: [□] None [□] Normal [□] Inhibited [□] Excessive [□] Other:

PIPE BENTHIC GROWTH: [□] None [□] Brown [□] Orange [□] Green [□] Other:

POOL QUALITY: [□] No pool [□] Good [□] Odors [□] Colors [□] Oils [□] Suds [□] Algae [□] Floatables [□] Other:

FOR FLOWING ONLY

COLOR: [X] Clear [□] Brown [□] Grey [□] Yellow [□] Green [□] Orange [□] Red [□] Other:

TURBIDITY: [X] None [□] Slight Cloudiness [□] Cloudy [□] Opaque [□]

FLOATABLES: [□] None [□] Sewage (toilet paper, etc.) [□] Petroleum (oil sheen) [□] Other:

EXCESS TRASH (plastic bags): [□] DUMPING (bulky): [□] EXCESSIVE SEDIMENTATION

OTHER CONCERNS: [□] Needs Regular Maintenance [□] Bank Erosion [□] Other:

POTENTIAL RESTORATION CANDIDATE [□] Discharge investigation [□] Stream daylighting [□] Local stream repair/outfall stabilization [□] Storm water retrofit [□] Other:

If yes for daylighting:

Length of vegetative cover from outfall: ________ ft Type of existing vegetation: __________________ Slope: ________°

If yes for stormwater:

Is stormwater currently controlled? [□] Yes [□] No [□] Not investigated

Land Use Description: Parking lot

Area available:

OUTFALL SEVERITY:

(circle #)

Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in the receiving stream; discharge appears to be having a significant impact downstream.

Small discharge; flow mostly clear and odorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor/localized.

Outfall does not have dry weather discharge; staining; or appearance of causing any erosion problems.

OUTFALL SEVERITY: 5 4 3 2 1

SKETCH/NOTES: There are several open channel inputs to this reach + a few closed pipes (~21 in total). See reverse side for location + additional details

- No unusual observations -

REPORTED TO AUTHORITIES: [□] YES [□] NO
1) Tributary entering LB = 41°49'03"/72°43'41" - possibly stream from parking lot.
2) Outlet from stream carries flow of tributary on LB 2 41°49'03"/72°43'41"
3) Tributary input on LB = 41°49'05"/72°43'41"
4) Tributary input on RB = 41°49'06"/72°43'41"
5)  "  "  "  O 41°49'06"/72°43'41"
6)  "  "  "  LB 30' further North
7)  "  "  "  O 41°49'08"/72°43'41"
8)  "  "  "  O 41°49'10"/72°43'41"
9)  "  "  "  O 41°49'12"/72°43'41" - there is some running water here, unlike the others listed above, which are more wash-out streets.
10)  "  "  "  O 41°49'13"/72°43'41"
11)  "  "  "  Belzona residential area = 41°49'13"/72°43'41"
12)  "  "  "  Belzona residential area = 41°49'13"/72°43'41"
13) Streamwater input on RB = 41°49'13"/72°43'41" - there's a 30' round concrete pipe, see photo Olympus 0000.
14) Tributary at streamwater flow (x2) on RB = 41°49'16"/72°43'42"
15) Tributary input on LB = 41°49'16"/72°43'40"
16) Input on LB = 41°49'17"/72°43'41"
17) Streamwater pipe on RB Belzona residential area 12" diameter, rip-rap under pile with off ground + 4' back from river bank at 41°49'21"/72°43'43"
18) Tributary input with running water to LB = 41°49'22"/72°43'43"
19) Input to LB = 41°49'25"/72°43'42"
20) Streamwater input (no pipe) to RB = 41°49'26"/72°43'42"
21) O end of reach (upstream end) of culvert there is a 5' round metal pipe
**Severe Bank Erosion**

**WATERSHED/SUBSHED:** FYB  
**DATE:** 11/30/01  
**ASSESSED BY:** JM plus 34

**SURVEY REACH:** 3  
**TIME:** AM/PM  
**PHOTO ID (CAMERA-PIC #:)** DSP 1# 007

**SITE ID:** (Condition #:)

**ER:**

<table>
<thead>
<tr>
<th>PROCESS</th>
<th>BANK OF CONCERN</th>
<th>LOCATION</th>
<th>DIMENSIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Currently unknown</td>
<td>□ LT □ RT □ Both (looking downstream)</td>
<td>□ Meander bend □ Straight section □ Steep slope/valley wall □ Other:</td>
<td>Length (if no GPS)</td>
</tr>
<tr>
<td>□ Downcutting</td>
<td>□ Bed scour</td>
<td></td>
<td>LT ft and/or RT ft</td>
</tr>
<tr>
<td>□ Widening</td>
<td>□ Bank failure</td>
<td></td>
<td>Bank Ht</td>
</tr>
<tr>
<td>□ Headcutting</td>
<td>□ Bank scour</td>
<td></td>
<td>LT ft and/or RT ft</td>
</tr>
<tr>
<td>□ Aggrading</td>
<td>□ Slope failure</td>
<td></td>
<td>Bank Angle</td>
</tr>
<tr>
<td>□ Sed. deposition</td>
<td>□ Channelized</td>
<td></td>
<td>LT ° and/or RT °</td>
</tr>
</tbody>
</table>

**LAND OWNERSHIP:** □ Private □ Public □ Unknown  
**LAND COVER:** □ Forest □ Field/Ag □ Developed

**POTENTIAL RESTORATION CANDIDATE:** □ Grade control □ Bank stabilization □ Other:

**THREAT TO PROPERTY/INFRASTRUCTURE:** □ No □ Yes (Describe):  
**EXISTING RIPARIAN WIDTH:** □ ≤25 ft □ 25-50 ft □ 50-75ft □ 75-100ft □ >100ft

**EROSION SEVERITY:**

<table>
<thead>
<tr>
<th>Channelized</th>
<th>Active downcutting; tall banks on both sides of the stream eroding at a fast rate; erosion contributing significant amount of sediment to stream; obvious threat to property or infrastructure.</th>
<th>Pat downcutting evident, active stream widening, banks actively eroding at a moderate rate; no threat to property or infrastructure.</th>
<th>Grade and width stable, isolated areas of bank failure/erosion; likely caused by a pipe failure, local scour, impaired riparian vegetation or adjacent use.</th>
</tr>
</thead>
<tbody>
<tr>
<td>□</td>
<td>5</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ACCESS:</th>
<th>Good access: Open area in public ownership, sufficient room to stockpile materials, easy stream channel access for heavy equipment using existing roads or trails.</th>
<th>Fair access: Forested or developed area adjacent to stream. Access requires tree removal or impact to riparian areas. Stockpile areas small or distant from stream.</th>
<th>Difficult access. Must cross wetland, steep slope or other sensitive areas to access stream. Minimal stockpile areas available and/or located a long distance from stream channel. Specialized heavy equipment required.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>

**NOTES/CROSS SECTION SKETCH:**

Minor bank erosion/slope failure at various spots throughout reach. This example is typical.

Another slope failure to left bank 41°49′23″/81°43′42″

**REPORTED TO AUTHORITIES:** □ Yes □ No
**WATERSHED/SUBSHED:** FYB  
**DATE:** 11/20/09  
**ASSESSED BY:** CMN+  
**SURVEY REACH:** 3  
**TIME:** 9:45 AM/PM  
**PHOTO ID:** (Camera-Pic #) DISP # 007  
**SITE ID:** (Condition #) IB-  
**GPS:** (Unit ID)  

<table>
<thead>
<tr>
<th>IMPACTED BANK:</th>
<th>REASON INADEQUATE:</th>
<th>LAND USE:</th>
<th>DOMINANT LAND COVER:</th>
<th>INVASIVE PLANTS:</th>
<th>STREAM SHADE PROVIDED?</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ LT □ RT □ Both</td>
<td>☑ Lack of vegetation □ Too narrow □ Widespread invasive plants</td>
<td>□ Private □ Institutional □ Golf Course □ Park □ Other Public</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Facing downstream) LT Bank</td>
<td>Paved</td>
<td>Bare ground</td>
<td>Turf/lawn</td>
</tr>
<tr>
<td></td>
<td></td>
<td>RT Bank</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**LAND USE:** Private Institutional Golf Course Park Other Public

**DOMINANT LAND COVER:** LT Bank □ □ □ □ □ □ □ □ RT Bank □ □ □ □ □ □ □ □

**INVASIVE PLANTS:** □ None □ Rare □ Partial coverage □ Extensive coverage □ unknown

**STREAM SHADE PROVIDED?** □ None □ Partial □ Full □ WETLANDS PRESENT? □ No □ Yes □ Unknown

**POTENTIAL RESTORATION CANDIDATE**  
- Active reforestation  
- Greenway design  
- Natural regeneration  
- Invasives removal

**RESTORABLE AREA**

<table>
<thead>
<tr>
<th>LT BANK</th>
<th>RT BANK</th>
</tr>
</thead>
<tbody>
<tr>
<td>~ 80'</td>
<td>~ 15'</td>
</tr>
</tbody>
</table>

**REFORESTATION POTENTIAL:**

<table>
<thead>
<tr>
<th>Impacted area on public land where the riparian area does not appear to be used for any specific purpose; plenty of area available for planting</th>
<th>Impacted area on either public or private land that is presently used for a specific purpose, available area for planting adequate</th>
<th>Impacted area on private land where road, building encroachment or other feature significantly limits available area for planting</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>

**POTENTIAL CONFLICTS WITH REFORESTATION**

- Widespread invasive plants
- Potential contamination
- Lack of sun
- Poor/unsafe access to site
- Existing impervious cover
- Severe animal impacts (deer, beaver)
- Other

**NOTES:** These are areas where rip-rap has been placed or banks to stabilize. These areas were documented as below:

- Rip-rap ~ 30' long 10' high up bank on R/B ~ 41°49'51"/78°43'42"
- Rip-rap ~ 10' high x 30' long with approx. 25' or no rip-rap, then another 40' long x 15' high staked of rip-rap.

These areas may not be potential restoration candidates (they have already technically been "restored") however, it is relevant to note, particularly if future restoration is proposed on this reach. Other bioengineering techniques could be proposed instead of more rip-rap, since rip-rap can lead to stream temperatures + does not provide wildlife

wet.
**Reach Level Assessment**

**SURVEY REACH ID:** 1  
**WTRSHD/SUBSHD:** BBE  
**DATE:** 2/3/07  
**ASSESSED BY:** cm/186  
**GPS ID:** CO

**START**  
**TIME:** 9:20 AM  
**LMK:**  
**LAT:** 41° 50' 21"  
**LONG:** 72° 42' 47"  
**DESCRIPTION:** Junction with BBE-2

**END**  
**TIME:** 9:45 AM  
**LMK:**  
**LAT:** 41° 50' 23"  
**LONG:** 72° 42' 45"  
**DESCRIPTION:** Culvert + Jk

**RAIN IN LAST 24 HOURS**  
- [ ] Heavy rain  
- [ ] Steady rain  
- [ ] Intermittent  
- [ ] Clear

**SURROUNDING LAND USE**  
- [ ] Industrial  
- [ ] Commercial  
- [ ] Urban/Residential  
- [ ] Suburban/Res  
- [ ] Forested  
- [ ] Other: Dike, Turfline Road

**PRESENT CONDITIONS**  
- [ ] Heavy rain  
- [ ] Steady rain  
- [ ] Intermittent  
- [ ] Trace

**DOMINANT SUBSTRATE**  
- [ ] Silts/clays (fine or slick)  
- [ ] Sand (gritty)  
- [ ] Gravel (0.1-2.5")  
- [ ] Bedrock

**WATER CLARITY**  
- [ ] Clear  
- [ ] Turbid (suspended matter)

**AQUATIC PLANTS**  
- [ ] Attached: none  
- [ ] Some  
- [ ] Lots

**WILDLIFE IN OR AROUND STREAM**  
- [ ] Fish  
- [ ] Beaver  
- [ ] Deer

**STREAM SHADING**  
- [ ] Mostly shaded (>=75% coverage)  
- [ ] Partially shaded (>=25%)  
- [ ] Unshaded (<25%)

**CHANNEL DYNAMICS IN FLOOD**  
- [ ] Downcutting  
- [ ] Widening  
- [ ] Headcutting  
- [ ] Aggrading  
- [ ] Sed. deposition  
- [ ] Channelized

**STREAM BANKS**  
- [ ] Height: 3' (ft)

**REACH ACCESSIBILITY**  
- [ ] Good: Open area in public ownership, sufficient room to stockpile materials, easy stream channel access for heavy equipment using existing roads or trails.
- [ ] Fair: Forested or developed area adjacent to stream. Access requires tree removal or impact to landscaped areas. Stockpile areas small or distant from stream.
- [ ] Difficult: Must cross wetland, steep slope, or sensitive areas to get to stream. Few areas to stockpile available and/or located at great distance from stream. Stockpile areas large.

**REACH SKETCH AND SITE IMPACT TRACKING**

Simple plan sketch of survey reach. Track locations and IDs for all site impacts within the survey reach (OT, ER, IB, SC, UT, TR, MI) as well as any additional features deemed appropriate. Indicate direction of flow.

---

**NOTES:** (biggest problem you see in survey reach) 

The velocity of flow through the culvert was so high it caused the water to pool at the banks to blanch (hence the rip-rap). There is no canopy cover - thermal increase.

**REPORTED TO AUTHORITIES**  
- [ ] Yes  
- [ ] No
# Overall Stream Condition

<table>
<thead>
<tr>
<th>In-Stream Habitat</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greater than 70% of substrate favorable for optimal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).</td>
<td>20</td>
<td>19</td>
<td>18</td>
<td>17 16</td>
</tr>
<tr>
<td>Vegetative Protection</td>
<td>15</td>
<td>14</td>
<td>13</td>
<td>12 11</td>
</tr>
<tr>
<td>More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.</td>
<td>20</td>
<td>19</td>
<td>18</td>
<td>17 16</td>
</tr>
<tr>
<td>Right Bank</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5 4 3 2 1 0</td>
</tr>
<tr>
<td>Left Bank</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1 0</td>
</tr>
<tr>
<td>Bank Erosion</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5 4 3 2 1 0</td>
</tr>
<tr>
<td>Underwater</td>
<td>Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. &lt;5% of bank affected.</td>
<td>8</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Floodplain Connection</td>
<td>15</td>
<td>14</td>
<td>13</td>
<td>12 11</td>
</tr>
<tr>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>10</td>
<td>9</td>
<td>8</td>
<td>7 6</td>
</tr>
</tbody>
</table>

# Overall Buffer and Floodplain Condition

<table>
<thead>
<tr>
<th>Vegetated Buffer Width</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width of buffer zone &gt;50 feet; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, crops) have not impacted zone.</td>
<td>20</td>
<td>19</td>
<td>18</td>
<td>17 16</td>
</tr>
<tr>
<td>Right Bank</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5 4 3 2 1 0</td>
</tr>
<tr>
<td>Left Bank</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1 0</td>
</tr>
<tr>
<td>Floodplain Vegetation</td>
<td>20</td>
<td>19</td>
<td>18</td>
<td>17 16</td>
</tr>
<tr>
<td>Predominant floodplain vegetation type is mature forest</td>
<td>15</td>
<td>14</td>
<td>13</td>
<td>12 11</td>
</tr>
<tr>
<td>Floodplain Habitat</td>
<td>10</td>
<td>9</td>
<td>8</td>
<td>7 6</td>
</tr>
<tr>
<td>Floodplain Encroachment</td>
<td>15</td>
<td>14</td>
<td>13</td>
<td>12 11</td>
</tr>
<tr>
<td>No evidence of floodplain encroachment in the form of fill material, land development, or manmade structures.</td>
<td>10</td>
<td>9</td>
<td>8</td>
<td>7 6</td>
</tr>
</tbody>
</table>

Sub Total In-stream: 51 / 80 + Buffer/Floodplain: 32 / 80 = Total Survey Reach 83 / 160
Stream Crossing

Watershed/Subshed: 665
Survey Reach ID: 0
Site ID: (Condition #: SC - Sheet)
Latitude: 41° 50' 23"; Longitude: 72° 42' 45"

Type: [ ] Road Crossing [ ] Railroad Crossing [ ] Manmade Dam [ ] Beaver Dam [ ] Geological Formation [ ] Other: Dive

For Road/ Railroad Crossings Only
Shape: [ ] Arch [ ] Bottomless [ ] Box [ ] Elliptical [ ] Circular [ ] Pipe [ ] Other:

# Barrels: [ ] Single [ ] Double [ ] Triple [ ] Other:

Material: [ ] Concrete [ ] Flow-aligned [ ] Metal [ ] Not flow-aligned [ ] Other:

Alignment: [ ] Flow-aligned [ ] Not flow-aligned [ ] Do not know

Dimensions: (If variable, sketch)
Barrel diameter: 24" (ft)
Height: ______ (ft)

Culvert length: ______ (ft)
Width: ______ (ft)

Roadway elevation: ______ (ft)

Potential Restoration Candidate: [ ] Fish barrier removal [ ] Culvert repair/replacement [ ] Upstream storage retrofit
[ ] Fish barrier removal [ ] Culvert repair/replacement [ ] Upstream storage retrofit
[ ] No [ ] Local stream repair [ ] Other:

Is SC acting as grade control: [ ] No [ ] Yes [ ] Unknown

Extent of Physical Blockage:
[ ] Total [ ] Partial [ ] Temporary [ ] Unknown

If yes for fish barrier
Cause:
[ ] Drop too high Water Drop: ______ (in)
[ ] Flow too shallow Water Depth: ______ (in)
[ ] Other:

Blockage Severity: (Circle #)
5 4 3 2 1

Blockage at a structure such as a dam or road culvert on a 3rd order or greater stream blocking the upstream movement of anadromous fish; no fish passage device present.

A total fish blockage on a tributary that would isolate a significant reach of stream, or partial blockage that may interfere with the migration of anadromous fish.

A temporary barrier such as a beaver dam or a blockage at the very head of a stream with very little viable fish habitat above it; natural barriers such as waterfalls.

Notes/Sketch: See RCH data sheet for sketch.

Reported to authorities: [ ] Yes [ ] No
Reach Level Assessment

**Survey Reach ID:** 2

**Wtrshd/Subsh:** BBE

**Date:** 12/3/09

**Assessed by:** CMW

**Start Time:** 9:00 AM

**LMK:**

**End Time:** 9:20 AM

**LMK:**

**Description:** Junction with BBE-01

**Rain in Last 24 Hours:**
- Heavy rain
- Steady rain
- None
- Intermittent

**Surrounding Land Use:**
- Industrial
- Commercial
- Golf course
- Park
- Urban/Residential
- Suburban/Res
- Forested
- Institutional
- Other: 1

**Average Conditions (Check applicable):**
- Base flow as a % of the channel width.
  - 25-50%
  - 50-75%
  - 75-100%

**Dominant Substrate:**
- Site/clay (fine or slick)
- Sand (gritty)
- Gravel (0.1-2.5")
- Cobble (2.5-10")
- Boulder (>10")
- Bed rock

**Water Clarity:**
- Clear
- Turbid (suspended matter)
- Stained (clear, naturally colored)
- Opaque (milky)
- Other (chemicals, dyes)

**Aquatic Plants in Stream:**
- Attached: None
- Some
- Lots
- Floating: None
- Some
- Lots

**Wildlife in or around Stream:**
- Evidence of:
  - Fish
  - Beaver
  - Deer
  - Snails
  - Other (mark)

**Stream Shading:**
- Mostly shaded (>75% coverage)
- Halfway (50%)
- Partially shaded (<25%)
- Unshaded (<25%)

**Reach Sketch and Site Impact Tracking:**
- Simple sketch of survey reach. Track impacts and damaged areas for all site impacts within the survey reach (OT, ER, IB, SC, UT, TR, MD) as well as any additional features deemed appropriate. Indicate direction of flow.

**Reach Accessibility:**
- Good: Open area in public ownership, sufficient room to stockpile materials, easy stream channel access for heavy equipment using existing roads or trails.
- Fair: Forested or developed area adjacent to stream. Access requires tree removal or impact to landscaped areas. Stockpile areas small or distant from stream.
- Difficult: Must cross wetland, steep slope, or sensitive areas to get to stream. Few areas to stockpile available and/or located a great distance from stream. Specialized heavy equipment required.

**Notes:** (biggest problem you see in survey reach)

**Reported to authorities:**
- Yes
- No
### Overall Stream Condition

<table>
<thead>
<tr>
<th>In-Stream Habitat</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greater than 70% of substrate favorable for epilithal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).</td>
<td>20 19 18 17 16</td>
<td>15 14 13</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>Vegetative Protection</td>
<td>70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than onefourth of the potential plant stubble height remaining.</td>
<td>15 14 13</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>Bank Erosion</td>
<td>Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems.</td>
<td>10 9</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
<tr>
<td>Floodplain Connection</td>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>15 14 13 12 11</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1</td>
</tr>
</tbody>
</table>

### Overall Buffer and Floodplain Condition

<table>
<thead>
<tr>
<th>Vegetated Buffer Width</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width of buffer zone &gt;50 feet; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, crops) have not impacted zone.</td>
<td>20 19 18 17 16</td>
<td>15 14 13 12 11</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1</td>
</tr>
<tr>
<td>Floodplain Vegetation</td>
<td>Predominant floodplain vegetation type is mature forest</td>
<td>20 19 18 17 16</td>
<td>15 14 13 12 11</td>
<td>10 9 8 7 6</td>
</tr>
<tr>
<td>Floodplain Habitat</td>
<td>Even mix of wetland and non-wetland habitats, evidence of standing/ponded water</td>
<td>20 19 18 17 16</td>
<td>15 14 13 12 11</td>
<td>10 9 8 7 6</td>
</tr>
<tr>
<td>Floodplain Encroachment</td>
<td>No evidence of floodplain encroachment in the form of fill material, land development, or manmade structures</td>
<td>20 19 18 17 16</td>
<td>15 14 13 12 11</td>
<td>10 9 8 7 6</td>
</tr>
</tbody>
</table>

Sub Total In-stream: 160/160 + Buffer/Floodplain: 60/160 = Total Survey Reach 160/160
**Trash and Debris**

<table>
<thead>
<tr>
<th>Watershed/Subshed:</th>
<th>6B F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survey Reach ID:</td>
<td>07</td>
</tr>
<tr>
<td>Site ID:</td>
<td>TR</td>
</tr>
<tr>
<td>Lat:</td>
<td>41° 50' 18&quot; Long: 72° 40' 52&quot;</td>
</tr>
<tr>
<td>Type:</td>
<td>TR (Truck)</td>
</tr>
<tr>
<td>Material:</td>
<td>Paper, Yard Waste</td>
</tr>
<tr>
<td>Source:</td>
<td>Unknown, Illegal dump</td>
</tr>
<tr>
<td>Location:</td>
<td>Stream, Riparian Area</td>
</tr>
<tr>
<td>Land Ownership:</td>
<td>Unknown</td>
</tr>
<tr>
<td>Amount:</td>
<td>(2) pickup truck loads</td>
</tr>
</tbody>
</table>

**Potential Restoration Candidate**
- Stream cleanup
- Stream adoption segment
- Removal/prevention of dumping

**Equipment Needed:**
- Heavy equipment
- Trash bags
- Unknown

**Who can do it:**
- Volunteers
- Local Gov
- Hazmat Team
- Other

**Clean-up Potential:**
- A small amount of trash (i.e., less than two pickup truck loads) located inside a park with easy access.
- A large amount of trash, or bulk items, in a small area with easy access. Trash may have been dumped over a long period of time but it could be cleaned up in a few days, possibly with a small backhoe.
- A large amount of trash or debris scattered over a large area, where access is very difficult. Or presence of drums or indications of hazardous materials.

**Notes:** Very old and relatively intact, may require machinery to remove.

**Reported to Authorities:**
- Yes [X]
- No [ ]
### Reach Level Assessment

**SURVEY REACH ID:** BBE-04  
**WTRSHD/SUBSHD:** BERMAN BROOK E  
**DATE:** 12/3/09  
**ASSESSED BY:** R.C. + CM

**START TIME:** 8:30 AM/PM  
**TIME:** 41.58"  
**LONG:** 71° 43' 11"  
**DESCRIPTION:** CONFERENCE W/BERMAN BUCK

**END TIME:** 4:30 AM/PM  
**TIME:** 2° 0"  
**LONG:** 70° 0"  
**DESCRIPTION:** CONFERENCE W/BBE-03 (NOT SEEN)

**RAIN IN LAST 24 HOURS:**  
- [ ] Heavy rain  
- [ ] Steady rain  
- [ ] None  
- [ ] Intermittent  
- [ ] Trace  
- [ ] Overcast  
- [ ] Partly cloudy  

**PRESENT CONDITIONS:**  
- [ ] Heavy rain  
- [ ] Steady rain  
- [ ] Intermittent  
- [ ] Clear  
- [ ] Trace  
- [ ] Overcast  
- [ ] Partly cloudy

**SURROUNDING LAND USE:**  
- [ ] Industrial  
- [ ] Commercial  
- [ ] Golf course  
- [ ] Park  
- [ ] Crop  
- [ ] Forested  
- [ ] Forested  
- [ ] Other:

**AVERAGE CONDITIONS (check applicable):**  
- [ ] Base flow as %  
- [ ] Channel Width

<table>
<thead>
<tr>
<th>Base Flow as %</th>
<th>Channel Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-25%</td>
<td>25-50%</td>
</tr>
<tr>
<td>50-75%</td>
<td>75-100%</td>
</tr>
</tbody>
</table>

**DOMINANT SUBSTRATE:**  
- [ ] Silty-clay (fine or slick)  
- [ ] Cobble (2.5-10")  
- [ ] Sand (gritty)  
- [ ] Boulder (>10")  
- [ ] Gravel (0.1-2.5")  
- [ ] Bed rock

**WATER CLARITY:**  
- [ ] Clear  
- [ ] Turbid (suspended matter)  
- [ ] Stained (clear, naturally colored)  
- [ ] Opaque (milky)  
- [ ] Other (chemicals, dyes)

**AQUATIC PLANTS IN STREAM:**  
- [ ] Attached:  
- [ ] Floating:

**WILDLIFE IN OR AROUND STREAM:**  
- [ ] Fish  
- [ ] Beaver  
- [ ] Deer  
- [ ] Snails  
- [ ] Other:

**STREAM SHADING (water surface):**  
- [ ] Mostly shaded (75% coverage)  
- [ ] Halfway (50%)  
- [ ] Partially shaded (25%)  
- [ ] Unshaded (< 25%)

**CHANNEL DYNAMICS:**  
- [ ] Downcutting  
- [ ] Widening  
- [ ] Headcutting  
- [ ] Aggrading  
- [ ] Sed. deposition  
- [ ] Bed scour  
- [ ] Bank failure  
- [ ] Bank scour  
- [ ] Slope failure  
- [ ] Channelized

**CHANNEL DIMENSIONS (FACING DOWNSTREAM):**  
- [ ] Width:

<table>
<thead>
<tr>
<th>Bank Width</th>
<th>Bank Height</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bottom</td>
<td>18 ( ft)</td>
</tr>
</tbody>
</table>

**REACH ACCESSIBILITY:**  
- [ ] Good: Open area in public ownership, sufficient room to stockpile materials, easy stream channel access for heavy equipment using existing roads or trails.
- [ ] Fair: Forested or developed area adjacent to stream. Access requires tree removal or impact to landscaped areas. Stockpile areas small or distant from stream.
- [ ] Difficult: Must cross wetland, steep slope, or sensitive areas to get to stream. Few areas to stockpile available and/or located a great distance from stream. Specialized heavy equipment required.

**REACH SKETCH AND SITE IMPACT TRACKING:**  
Simple planar sketch of survey reach. Track locations and IDs for all site impacts within the survey reach (OT, ER, IB, SC, UT, TR, MI) as well as any additional features deemed appropriate. Indicate direction of flow.

---

**REACH LOCATION:**  
- [ ] BBE-03 (NOT SEEN)

**Power Lines:**
- [ ] Open field, blown

**Flow:**
- [ ] Flooded

**Pipe:**
- [ ] OPEN FIELD, BLOWN

**Invasive Plants:**
- [ ] Pachysandra, Parthenium, Rosa multiflora, etc.

**Notes:**
- [ ] (biggest problem you see in survey reach)
- [ ] MWU CABIN + PIPED TRIBUTARY (R) BANK N OF WINDROW BUNKY.
- [ ] HEAVY SEDIMENT LOAD ON 1/3 REPORTED TO AUTHORITIES. [ ] Yes [ ] No.

---

**Surveys:**
- [ ] 3 from 2 PANEL LINE.
- [ ] 3 from 2 PANEL LINE.
- [ ] 5 from 2 PANEL LINE.
### Overall Stream Condition

<table>
<thead>
<tr>
<th>Habitat/Protection Type</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>In-stream Habitat</strong></td>
<td>20 19 18 17 16</td>
<td>15 13 12 11 10 9 8 7 6</td>
<td>5 4 3 2 1 0</td>
<td>Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.</td>
</tr>
<tr>
<td><strong>Vegetative Protection</strong></td>
<td>More than 90% of the streambank surfaces covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.</td>
<td>70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stable height remaining.</td>
<td>50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stable height remaining.</td>
<td>Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation very high; vegetation has been removed to 5 centimeters or less in average stable height.</td>
</tr>
<tr>
<td><strong>Bank Erosion</strong> (facing downstream)</td>
<td>Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems.</td>
<td>Grade and width stable; isolated areas of bank failure/erosion; likely caused by a pipe outfall, local scour, impaired riparian vegetation or adjacent use.</td>
<td>Past downcutting evident, active stream widening, and bank failure at a moderate rate; no threat to property or structure.</td>
<td>Active downcutting; tail banks on both sides of the stream eroding at a fast rate; erosion contributing significant amount of sediment to stream; obvious threat to property or infrastructure.</td>
</tr>
<tr>
<td><strong>Floodplain Connection</strong></td>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched.</td>
<td>High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched.</td>
</tr>
</tbody>
</table>

### Overall Buffer and Floodplain Condition

<table>
<thead>
<tr>
<th>Buffer Width</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vegetated Buffer Width</strong></td>
<td>20 19 18 17 16</td>
<td>15 14 13 12 11 10 9 8 7 6</td>
<td>5 4 3 2 1 0</td>
<td>Width of buffer zone &lt;10 feet; little or no riparian vegetation due to human activities.</td>
</tr>
<tr>
<td><strong>Floodplain Vegetation</strong></td>
<td>Predominant floodplain vegetation type is mature forest</td>
<td>Predominant floodplain vegetation type is young forest</td>
<td>Predominant floodplain vegetation type is shrub or old field</td>
<td>Predominant floodplain vegetation type is turf or crop land</td>
</tr>
<tr>
<td><strong>Floodplain Habitat</strong></td>
<td>Even mix of wetland and non-wetland habitats, evidence of standing/ponded water</td>
<td>Even mix of wetland and non-wetland habitats, no evidence of standing/ponded water</td>
<td>Either all wetland or non-wetland habitat, evidence of standing/ponded water</td>
<td>Either all wetland and non-wetland habitat, no evidence of standing/ponded water</td>
</tr>
<tr>
<td><strong>Floodplain Encroachment</strong></td>
<td>No evidence of floodplain encroachment in the form of fill material, land development, or manmade structures</td>
<td>Minor floodplain encroachment in the form of fill material, land development, or manmade structures, but not affecting floodplain function</td>
<td>Moderate floodplain encroachment in the form of filling, land development, or manmade structures, some effect on floodplain function</td>
<td>Significant floodplain encroachment (i.e. fill material, land development, or man-made structures). Significant effect on floodplain function</td>
</tr>
</tbody>
</table>

Sub: Total In-stream: 68 / 80 + Buffer/Floodplain: 64 / 80 = Total Survey Reach 132 / 160
**Stream Crossing**

**Watershed/Subshed:** BR6

**Survey Reach ID:** 04

**Time:** 8:45 AM

**Photo ID:** (Camera-Pic #) 100300

**Site ID:** (Condition #) SC-

**Lat:** 41° 50' 09" **Long:** 73° 43' 09"

**LMK:** GPS (Unit ID)

**Type:** 2. Road Crossing

**Shape:**
- Arch
- Box
- Elliptical
- Circular
- Other:

**Bars:**
- Single
- Double
- Triple
- Other:

**Material:**
- Concrete
- Metal
- Other:

**Alignment:**
- Flow-aligned
- Not flow-aligned
- Do not know

**Dimensions:** (If variable, sketch)
- Barrel diameter: 5 (ft)
- Height: __________ (ft)
- Culvert length: __________ (ft)
- Width: __________ (ft)

**Roadway elevation:** __________ (ft)

**Potential Restoration Candidate:**
- Fish barrier removal
- Culvert repair/replacement
- Upstream storage retrofit
- Local stream repair
- Other:

**Extent of Physical Blockage:**
- Total
- Partial
- Temporary
- Unknown

**If yes for fish barrier:**
- Cause:
  - Drop too high
  - Flow too shallow
- Water Drop: ______ (in)
- Water Depth: ______ (in)

**Blockage Severity:** (circle #)
- A structure such as a dam or road culvert on a 3rd order or greater stream blocking the upstream movement of anomalous fish; no fish passage device present.
- A total fish blockage on a tributary that would isolate a significant reach of stream, or partial blockage that may interfere with the migration of anomalous fish.
- A temporary barrier such as a beaver dam or a blockage at the very head of a stream with very little viable fish habitat above it; natural barriers such as waterfalls.

**Notes/Sketch:**

**Reported to Authorities:** Yes No
**Storm Water Outfalls**

**Watershed/Subshed:** B6E  
**Survey Reach ID:** 43  
**Site ID (Condition #):** OT  
**Date:** 12/03/09  
**Assessed By:** CMN + TB  
**Time:** 8:05 AM  
**Photo ID:** (Camera-Pic #)  
**Latitude:** 41°50'  
**Longitude:** 72°43'  
**LMK:**  
**GPS: (Unit ID):**

| **BANK:** | □ LT □ RT □ Head  |
| **Flow:** | □ None □ Trickle  |
| □ Moderate □ Substantial □ Other:  |
| **Type:** | □ Closed pipe  |
| □ Open channel □ Concrete □ Earthen □ Other:  |
| **Material:** | □ Concrete □ Metal  |
| □ PVC/Plastic □ Brick □ Other:  |
| **Shape:** | □ Single □ Circular □ Double □ Elliptical □ Triple  |
| □ Trapezoid □ Parabolic □ Other:  |
| **Dimensions:** | Diameter: □ (in)  |
| □ Depth: □ Width (Top): □ Width (Bottom): □ (in)  |

**Condition:**  
□ None □ Chip/Cracked □ Peeling Paint □ Corrosion □ Other:  
**Odor:** □ No □ Gas □ Sewage □ Rancid/Sour □ Sulfide □ Other:  
**Deposits/Stains:** □ None □ Oily □ Flow Line □ Paint □ Other:  
**Vegetation Density:** □ None □ Normal □ Inhibited □ Excessive □ Other:  
**Pipe Benthic Growth:** □ None □ Brown □ Orange □ Green □ Other:  
**Pool Quality:** □ No pool □ Good □ Odors □ Colors □ Oils □ Suds □ Algae □ Floatables □ Other:  

**Not Applicable**

**FOR FLOWING ONLY:**  
**Color:** □ Clear □ Brown □ Grey □ Yellow □ Green □ Orange □ Red □ Other:  
**Turbidity:** □ None □ Slight Cloudiness □ Cloudy □ Opaque □ Other:  
**Floatables:** □ None □ Sewage (toilet paper, etc.) □ Petroleum (oil sheen) □ Other:  
**Other Concerns:** □ Excess Trash (paper/plastic bags) □ Dumping (bulk) □ Excessive Sedimentation □ Needs Regular Maintenance □ Bank Erosion □ Other:  

**Potential Restoration Candidate**  
□ Discharge investigation □ Stream daylighting □ Local stream repair/outfall stabilization □ Storm water retrofit □ Other:  
**If Yes for daylighting:**  
**Length of vegetative cover from outfall:** _____ ft □ Type of existing vegetation: __________ □ Slope: _____  
**If Yes for stormwater:  
**Is stormwater currently controlled?** □ Yes □ No □ Not investigated □ Land Use description: __________ □ Area available: __________  
**Outfall Severity:**  
(circle #) □ Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream. □ Small discharge, flow mostly clear and odorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor/localized. □ Outfall does not have dry weather discharge; staining; or appearance of causing any erosion problems.  
**Sketch/Notes:**  
**Reported to Authorities:** □ Yes □ No
Region: RCH

Survey Reach ID: 88K204
Wtrshd/Subshd: Beman Creek West
Date: 12/3/09
Assessed By: Be 010

Start Time: 9:30 AM
LMK:
Lat: 41°50'08" Long: 72°43'12"
Description: Confluence with B8E-04

End Time: 10:15 AM
LMK:
Lat: 41°50'20" Long: 72°43'18"
Description: Bend behind houses

Rain in Last 24 Hours:
- Heavy rain
- Steady rain
- None
- Intermittent

Present Conditions:
- Heavy rain
- Steady rain
- Intermittent
- Trace
- Overcast
- Partly cloudy

Surrounding Land Use:
- Industrial
- Commercial
- Urban/Residential
- Suburban/Residential
- Forested
- Institutional
- Other

Average Conditions (check applicable):
- Flow as %: 0-25%
- Channel width: 25-50%
- 50-75%
- 75-100%

Dominant Substrate:
- Silt/clay (fine or slick)
- Cobble (2.5 - 10")
- Sand (gritty)
- Boulder (>10")
- Gravel (0.1 - 2.5")
- Bed rock

Water Clarity:
- Clear
- Turbid (suspended matter)
- Stained (clear, naturally colored)
- Opaque (milky)
- Other (chemicals, dyes)

Aquatic Plants in Stream:
- Attached: None
- Floating: None

Wildlife in or around stream:
- Evidence of:
  - Fish
  - Beaver
  - Deer
  - Snails
  - Other

Stream Shade:
- Mostly shaded (>75% coverage)
- Halfway (>50%)
- Partially shaded (25%)
- Unshaded (<25%)

Channel Dynamics:
- Downcutting
- Widening
- Headcutting
- Aggrading
- Sed. deposition
- Bed scour
- Bank failure
- Bank scour
- Slope failure
- Channelized

(channel downstream)
- Height: T bank
- Width: Bottom

Reach Accessibility:

Good: Open area in public ownership, sufficient room to stockpile materials, easy stream channel access for heavy equipment using existing roads or trails.
Fair: Forested or developed area adjacent to stream. Access requires tree removal or impact to landscaped areas. Stockpile areas small or distant from stream.
Difficult: Must cross wetland, steep slope, or sensitive areas to get to stream. Few areas to stockpile available and/or located a great distance from stream. Specialized heavy equipment required.

Notes: (biggest problem you see in survey reach)
- Subsoil:
  - Mown lawns, dumping of yard waste, damming of pool to stream

Reported to authorities: Yes

### OVERALL STREAM CONDITION

<table>
<thead>
<tr>
<th><strong>IN-STREAM HABITAT</strong></th>
<th><strong>Optimal</strong></th>
<th><strong>Suboptimal</strong></th>
<th><strong>Marginal</strong></th>
<th><strong>Poor</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>(May modify criteria based on appropriate habitat regime)</td>
<td>Greater than 70% of substrate fish cover; mix of snags, submerged logs, undercut banks, cobbles or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transients).</td>
<td>40-70% mix of stable habitat; well suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrates of for newfall, but not yet prepared for colonization (may rate at high end of scale).</td>
<td>20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.</td>
<td>Less than 20% stable habitat; lack of habitat is obvious, substrate unstable or lacking.</td>
</tr>
<tr>
<td>20 19 18 17 16</td>
<td>15 14 13 12 11</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
</tbody>
</table>

### VEGETATIVE PROTECTION

(score each bank, determine side by facing downstream)

<table>
<thead>
<tr>
<th><strong>BANK EROSION</strong></th>
<th><strong>Optimal</strong></th>
<th><strong>Suboptimal</strong></th>
<th><strong>Marginal</strong></th>
<th><strong>Poor</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>(facing downstream)</td>
<td>More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.</td>
<td>70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well represented; disruption evident but not affecting full plant growth potential to any great extent; more than one half of the potential plant stubble height remaining.</td>
<td>50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one half of the potential plant stubble height remaining.</td>
<td>Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.</td>
</tr>
<tr>
<td>Left Bank 10 9</td>
<td>Right Bank 10 9</td>
<td>Left Bank 10 9</td>
<td>Right Bank 10 9</td>
<td></td>
</tr>
<tr>
<td>8 7 6</td>
<td>8 7 6</td>
<td>5 4 3</td>
<td>5 4 3</td>
<td></td>
</tr>
</tbody>
</table>

### FLOODPLAIN CONNECTION

<table>
<thead>
<tr>
<th><strong>FLOODPLAIN CONNECTION</strong></th>
<th><strong>Optimal</strong></th>
<th><strong>Suboptimal</strong></th>
<th><strong>Marginal</strong></th>
<th><strong>Poor</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>High flows (greater than bankfull) able to enter floodplain. Stream deeply entrenched.</td>
<td>High flows (greater than bankfull) not able to enter floodplain. Stream deepy entrenched.</td>
<td></td>
</tr>
<tr>
<td>20 19 18 17 16</td>
<td>15 14 13 12 11</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
</tbody>
</table>

### OVERALL BUFFER AND FLOODPLAIN CONDITION

<table>
<thead>
<tr>
<th><strong>VEGETATED BUFFER WIDTH</strong></th>
<th><strong>Optimal</strong></th>
<th><strong>Suboptimal</strong></th>
<th><strong>Marginal</strong></th>
<th><strong>Poor</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Width of buffer zone &gt;50 feet; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, crops) have not impacted zone.</td>
<td>Width of buffer zone 25-50 feet; human activities have impacted zone only minimally.</td>
<td>Width of buffer zone 10-25 feet; human activities have impacted zone a great deal.</td>
<td>Width of buffer zone &lt;10 feet; little or no riparian vegetation due to human activities.</td>
<td></td>
</tr>
<tr>
<td>Left Bank 10 9</td>
<td>Right Bank 10 9</td>
<td>8 7 6</td>
<td>5 4 3</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>FLOODPLAIN VEGETATION</strong></th>
<th><strong>Optimal</strong></th>
<th><strong>Suboptimal</strong></th>
<th><strong>Marginal</strong></th>
<th><strong>Poor</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Predominant floodplain vegetation type is mature forest.</td>
<td>Predominant floodplain vegetation type is young forest.</td>
<td>Predominant floodplain vegetation type is shrub or old field.</td>
<td>Predominant floodplain vegetation type is turf or crop land.</td>
<td></td>
</tr>
<tr>
<td>20 19 18 17 16</td>
<td>15 14 13 12 11</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>FLOODPLAIN HABITAT</strong></th>
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<th><strong>Suboptimal</strong></th>
<th><strong>Marginal</strong></th>
<th><strong>Poor</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Even mix of wetland and non-wetland habitats, evidence of standing/ponded water.</td>
<td>Even mix of wetland and non-wetland habitats, no evidence of standing/ponded water.</td>
<td>Either all wetland or all non-wetland habitat, evidence of standing/ponded water.</td>
<td>Either all wetland or all non-wetland habitat, no evidence of standing/ponded water.</td>
<td></td>
</tr>
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<td>5 4 3 2 1</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>FLOODPLAIN ENCROACHMENT</strong></th>
<th><strong>Optimal</strong></th>
<th><strong>Suboptimal</strong></th>
<th><strong>Marginal</strong></th>
<th><strong>Poor</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>No evidence of floodplain encroachment in the form of fill material, land development, or manmade structures.</td>
<td>Minor floodplain encroachment in the form of fill material, land development, or manmade structures, but not effecting floodplain function.</td>
<td>Moderate floodplain encroachment in the form of filling, land development, or manmade structures, some effect on floodplain function.</td>
<td>Significant floodplain encroachment (i.e. fill material, land development, or man-made structures). Significant effect on floodplain function.</td>
<td></td>
</tr>
<tr>
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<td>15 14 13 12 11</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1</td>
<td></td>
</tr>
</tbody>
</table>

Sub Total In-stream: \( \frac{57}{80} \) + Buffer/Floodplain: \( \frac{57}{80} \) = Total Survey Reach \( \frac{94}{160} \)
WATERSHED/SUBSHED: 68W
SURVEY REACH ID: 07
SITE ID: (Condition #) SC-

LAT 41° 51' 10" LONG 72° 43' 17"

LATITUDE: 41° 51' 10"
LONGITUDE: 72° 43' 17"
LMK

DATE: 1/21/09
ASSESSED BY: emt86
PHOTO ID: (Camera-Pic #) 1200

TYPE: Road Crossing

SHAPE:
- Arch
- Box
- Elliptical
- Other:

# BARRELS:
- Single
- Double
- Triple
- Other:

ALIGNMENT:
- Flow-aligned
- Not flow-aligned
- Do not know

DIMENSIONS: (if variable, sketch)
- Barrel diameter: 12\(f\)
- Height: 12\(f\)

CULVERT SLOPE:
- Flat
- Slight (2° - 5°)
- Obvious (>5°)

ROADWAY ELEVATION: 12\(f\)

CONDITION: (Evidence of...)
- Cracking/chipping/corrosion
- Sediment deposition
- Other (describe):

MATERIAL:
- Concrete
- Metal
- Other:

POTENTIAL RESTORATION CANDIDATE
- Fish barrier removal
- Culvert repair/replacement
- Upstream storage retrofit
- No
- Local stream repair
- Other:

IS SC ACTING AS GRADE CONTROL
- No
- Yes
- Unknown

EXTENT OF PHYSICAL BLOCKAGE:
- Total
- Partial
- Temporary
- Unknown

If yes for fish barrier

CAUSE:
- Drop too high
- Flow too shallow
- Water Drop: 12\(in\)
- Water Depth: 12\(in\)

BLOCKAGE SEVERITY: (circle #)
A structure such as a dam or road culvert on a 3rd order or greater stream blocking the upstream movement of anadromous fish; no fish passage device present.
A total fish blockage on a tributary that would isolate a significant reach of stream, or partial blockage that may interfere with the migration of anadromous fish.
A temporary barrier such as a beaver dam or a blockage at the very head of a stream with very little or no habitat above it; natural barriers such as waterfalls.

NOTES/SKETCH:
Rip-Rap on downstream sides of culvert along both banks. 60'-30' Headwall has consists of Rip-Rap.
**Impacted Buffer**

<table>
<thead>
<tr>
<th>WATERSHED/SUBSHED:</th>
<th>BBW</th>
</tr>
</thead>
<tbody>
<tr>
<td>SURVEY REACH:</td>
<td>0a</td>
</tr>
<tr>
<td>TIME:</td>
<td>7:55 PM</td>
</tr>
<tr>
<td>DATE:</td>
<td>2/13/09</td>
</tr>
<tr>
<td>ASSESSED BY:</td>
<td>046</td>
</tr>
<tr>
<td>PHOTO ID: (Camera-Pic #)</td>
<td>CR001 # 12</td>
</tr>
<tr>
<td>GPS: (Unit ID)</td>
<td></td>
</tr>
</tbody>
</table>

| Site ID: (Condition #) | IB: A |

<table>
<thead>
<tr>
<th>Site</th>
<th>LAT</th>
<th>&quot;&quot;</th>
<th>LONG</th>
<th>&quot;&quot;</th>
<th>LMK</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>START</td>
<td>LAT</td>
<td>&quot;&quot;</td>
<td>LONG</td>
<td>&quot;&quot;</td>
<td>LMK</td>
<td></td>
</tr>
<tr>
<td>END</td>
<td>LAT</td>
<td>&quot;&quot;</td>
<td>LONG</td>
<td>&quot;&quot;</td>
<td>LMK</td>
<td></td>
</tr>
</tbody>
</table>

**Impacted Bank:**
- □ LT
- □ RT
- □ Both

**Reason Inadequate:**
- □ Lack of vegetation
- □ Too narrow
- □ Widespread invasive plants
- □ Recently planted
- □ Other:

**Land Use:**
- (Facing downstream)
  - LT Bank
  - RT Bank

**Dominant Land Cover:**
- Paved
- Bare ground
- Turf/lawn
- Tall grass
- Shrub/scrub
- Trees
- Other:

**Invasive Plants:**
- □ None
- □ Rare
- □ Partial coverage
- □ Extensive coverage
- □ Unknown

**Potential Restoration Candidate:**
- □ Active reforestation
- □ Greenway design
- □ Natural regeneration
- □ Invasives removal
- □ No
- □ Other:

**Restorable Area**
- □ LT Bank
- □ RT

**Reforestation Potential:**
- (Circle #)

| Impacted area on public land where the riparian area does not appear to be used for any specific purpose; plenty of area available for planting |
| Impacted area on either public or private land that is presently used for a specific purpose; available area for planting adequate |
| Impacted area on private land where road, building encroachment or other feature significantly limits available area for planting |

**Potential Conflicts with Reforestation**
- □ Widespread invasive plants
- □ Potential contamination
- □ Lack of sun
- □ Poor/unsafe access to site
- □ Existing impervious cover
- □ Severe animal impacts (deer, beaver)
- □ Other:

**Notes:**
- unknown land use = park?
**Impacted Buffer**

**Watershed/Subshed:** 68W

**Survey Reach:**

<table>
<thead>
<tr>
<th>TIME:</th>
<th>00:00</th>
<th>PM</th>
</tr>
</thead>
</table>

**Site ID:** (Condition #) IB - 4

**Start Lat:** 41°50'13" Long: 72°43'14" LMK

**End Lat:** °'" Long °'" LMK

**Reason Inadequate:**
- [ ] Lack of vegetation
- [ ] Too narrow
- [ ] Widespread invasive plants
- [x] Recently planted
- [ ] Other: [ ]

**Land Use:**
- [x] Private
- [ ] Institutional
- [ ] Golf Course
- [ ] Park
- [ ] Other Public

(Facing downstream) LT Bank [x]

RT Bank [ ]

**Dominant Land Cover:**
- [ ] Paved
- [ ] Bare ground
- [ ] Turf/lawn
- [ ] Tall grass
- [ ] Shrub/scrub
- [x] Trees
- [ ] Other

**Invasive Plants:**
- [ ] None
- [x] Rare
- [ ] Partial coverage
- [ ] Extensive coverage
- [ ] Unknown

**Stream Shade Provided?**
- [ ] None
- [x] Partial
- [ ] Full

**Wetlands Present?**
- [ ] No
- [ ] Yes

**Potential Restoration Candidate**
- [ ] Active reforestation
- [ ] Greenway design
- [ ] Natural regeneration
- [ ] Invasives removal
- [ ] No
- [x] Other: [ ]

**Restorable Area**

<table>
<thead>
<tr>
<th>Length (ft):</th>
<th>30'</th>
</tr>
</thead>
</table>

**Reforestation Potential:**
- [ ] Impacted area on public land where the riparian area does not appear to be used for any specific purpose; plenty of area available for planting
- [ ] Impacted area on either public or private land that is presently used for a specific purpose; available area for planting adequate
- [ ] Impacted area on private land where road; building encroachment or other feature significantly limits available area for planting

<table>
<thead>
<tr>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Potential Conflicts with Reforestation**
- [ ] Widespread invasive plants
- [ ] Potential contamination
- [ ] Lack of sun
- [ ] Poor/unsafe access to site
- [ ] Existing impervious cover
- [ ] Severe animal impacts (deer, beaver)
- [ ] Other:

**Notes:** Yard waste piled up on Right Bank + home owner is draining their pool directly into creek.
Storm Water Outfalls

WATERSHED/SUBSHED: 68W
SURVEY REACH ID: 00
SITE ID (Condition #): OT: NA
LAT 41°50' 10" LONG 72°43' 11"

FLOW:
☐ None ☐ Trickle
☐ Moderate ☐ Substantial ☐ Other:
☐ Open channel
☐ Concrete ☐ Earthen
☐ Other:

BANK:
☐ LT ☐ RT ☐ Head

TYPE:
☐ Closed pipe

MATERIAL:
☐ Concrete ☐ Metal
☐ PVC/Plastic ☐ Brick
☐ Other:

SHAPE:
☐ Single ☐ Double
☐ Circular ☐ Elliptical ☐ Triple
☐ Other:

DIMENSIONS:
☐ Diameter: (in)
☐ Depth: (in)
☐ Width (Top): (in)
☐ Width (Bottom): (in)

CONDITION:
☐ None ☐ Chip/Cracked ☐ Peeling Paint ☐ Corrosion ☐ Other:

ODOR:
☐ Gas ☐ Sewage ☐ Rancid/Sour ☐ Sulfide ☐ Other:

DEPOSITS/STAINS:
☐ None ☐ Oily ☐ Flow Line ☐ Paint ☐ Other:

VEGGIE DENSITY:
☐ None ☐ Normal ☐ Inhibited ☐ Excessive ☐ Other:

SUBMERGED:
☐ No ☐ Partially ☐ Fully

FOR FLOWING ONLY:
COLOR:
☐ Clear ☐ Brown ☐ Grey ☐ Yellow ☐ Green ☐ Red ☐ Other:

TURBIDITY:
☐ None ☐ Slight Cloudiness ☐ Cloudy ☐ Opaque

FLOATABLES:
☐ None ☐ Sewage (toilet paper, etc.) ☐ Petroleum (oil sheen) ☐ Other:

OTHER CONCERNS:
☐ Excess Trash (paper/plastic bags) ☐ Dumping (bulk) ☐ Excessive Sedimentation
☐ Needs Regular Maintenance ☐ Bank Erosion ☐ Other:

PIECE BENTHIC GROWTH:
☐ None ☐ Brown ☐ Orange ☐ Green ☐ Other:

POOL QUALITY:
☐ No pool ☐ Good ☐ Odors ☐ Colors ☐ Oils ☐ Suds ☐ Algae ☐ Floatables ☐ Other:

POTENTIAL RESTORATION CANDIDATE
☐ Discharge investigation ☐ Stream daylighting ☐ Local stream repair/outfall stabilization
☐ no ☐ Storm water retrofit ☐ Other:

If yes for daylighting:
Length of vegetative cover from outfall: _______ ft Type of existing vegetation: ___________ Slope: ________

If yes for stormwater:
Is stormwater currently controlled?
☐ Yes ☐ No ☐ Not investigated
Land Use description:
Area available:

OUTFALL SEVERITY:
(circle #)
Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.
Small discharge; flow mostly clear and odorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream’s base flow and any impact appears to be minor/localized.
Outfall does not have dry weather discharge, staining; or appearance of causing any erosion problems.

OUTFALL SEVERITY:
5 4 3 2 1

SKETCH/NOTES:
Stormwater inputs from parking lot (elementary school).
There is also an intermittent stream/stagnated snare extending stream on RE

REPORTED TO AUTHORITIES:
☐ YES ☐ NO
Reach Level Assessment

Survey Reach ID: [Redacted]  Wtrsh/Subshd: W6S  Date: 12/1/09  Assessed By: CM/IBG

Start Time: 1:30 AM  LMK: [Redacted]  End Time: 3:00 PM  LMK: [Redacted]

Lat: 41° 50' 37"  Long: 72° 44' 33"

Description: Confluence with W6S-5 (Reach number along left bank)

Lat: 41° 51' 06"  Long: 73° 44' 27"

Description: Confluence with W6N-7/W6N-6

Rain in Last 24 Hours: ☐ Heavy rain  ☑ Steady rain
☐ None  ☐ Intermittent  ☐ Trace

Present Conditions: ☐ Heavy rain  ☐ Steady rain  ☐ Intermittent
☐ Clear  ☐ Trace  ☑ Overcast  ☐ Partly cloudy

Surrounding Land Use: ☐ Industrial  ☐ Commercial  ☐ Golf course
☐ Park  ☐ Crop  ☐ Pasture  ☐ Other:

Urban/Residential  ☑ Suburban/Res  ☐ Forested  ☐ Institutional

Average Conditions (check applicable):

Base Flow As %
☐ 0-25%  ☐ 25-50%  ☐ 50%-75%  ☑ 75-100%

Channel Width
☐ 0-25%  ☐ 25-50%  ☐ 50%-75%  ☑ 75-100%

Dominant Substrate
☐ Silt/clay (fine or sticky)  ☐ Cobble (2.5 - 10"
☑ Sand (gritty)  ☐ Boulder (> 10"
☐ Gravel (0.1 - 2.5")  ☐ Bed rock

Water Clarity
☐ Clear  ☐ Turbid (suspended matter)
☐ Stained (clear, naturally colored)  ☐ Opaque (milky)
☐ Other (chemicals, dyes)

Aquatic Plants
☑ Attached: ☐ none  ☑ some  ☐ lots
☐ Floating: ☐ none  ☑ some  ☐ lots

Wildlife in or Around Stream
☐ Evidence of:
☐ Fish  ☐ Beaver  ☐ Deer
☐ Snails  ☐ Other:

Stream Shading
☐ Mostly shaded (> 75% coverage)
☐ Halfway (50%)
☐ Partially shaded (25%)
☐ Unshaded (< 25%)

Channel Dynamics
☐ Downcutting  ☐ Widening  ☐ Headcutting
☐ Aggrading  ☐ Sed. deposition  ☐ Bed scour
☐ Bank failure  ☐ Bank scour  ☐ Slope failure
☐ Channelized
☐ Unknown

Channel Dimensions
Height: $\text{ft}$  Width: $\text{ft}$

Channel Accessibility

Good: Open area in public ownership, sufficient room to stockpile materials, easy stream channel access for heavy equipment using existing roads or trails.

Fair: Forested or developed area adjacent to stream. Access requires tree removal or impact to landscaped areas. Stockpile areas small or distant from stream.

Difficult: Must cross wetland, steep slope, or sensitive areas to get to stream. Few areas to stockpile available and/or located a great distance from stream. Specialization heavy equipment required.

Notes: (biggest problem you see in survey reach)

Minor bank impact due to residential lawn

Reported to Authorities: ☐ Yes  ☐ No
### Overall Stream Condition

<table>
<thead>
<tr>
<th>In-stream Habitat</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>(May modify criteria based on appropriate habitat regime)</td>
<td>Greater than 70% of substrate favorable for epiphytic colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).</td>
<td>40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).</td>
<td>20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.</td>
<td>Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.</td>
</tr>
<tr>
<td>20 19 18 17 16</td>
<td>15 (4)</td>
<td>13 12</td>
<td>11 10</td>
<td>9</td>
</tr>
</tbody>
</table>

### Vegetative Protection

| (score each bank, determine sides by facing downstream) | More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally. | 70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining. | 50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining. | Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height. |
| Left Bank | 10 9 | 8 | 7 6 | 5 4 3 | 2 1 0 |
| Right Bank | 10 9 | 8 | 7 6 | 5 4 3 | 2 1 0 |

### Bank Erosion (facing downstream)

| Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. | Grade and width stable; isolated areas of bank failure/erosion; likely caused by a pipe outfall, local scour, impaired riparian vegetation or adjacent use. | Past downcutting evident, active stream widening, banks actively eroding at a moderate rate; no threat to property or infrastructure. | Active downcutting; tall banks on both sides of the stream eroding at a fast rate; erosion contributing significant amount of sediment to stream; obvious threat to property or infrastructure. |
| Left Bank | 10 9 | 8 | 7 6 | 5 4 3 | 2 1 0 |
| Right Bank | 10 9 | 8 | 7 6 | 5 4 3 | 2 1 0 |

### Floodplain Connection

| High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched. | High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched. | High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched. | High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched. |
| 20 19 18 17 16 | 15 (4) | 13 12 | 11 10 | 9 | 8 | 7 6 | 5 4 3 2 1 0 |

### Overall Buffer and Floodplain Condition

<table>
<thead>
<tr>
<th>Vegetated Buffer Width</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width of buffer zone &gt;50 feet; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, crops) have not impacted zone.</td>
<td>Width of buffer zone 25-50 feet; human activities have impacted zone only minimally.</td>
<td>Width of buffer zone 10-25 feet; human activities have impacted zone a great deal.</td>
<td>Width of buffer zone &lt;10 feet; little or no riparian vegetation due to human activities.</td>
<td></td>
</tr>
<tr>
<td>Left Bank</td>
<td>10</td>
<td>8 7 6</td>
<td>5 4 3</td>
<td>2 1 0</td>
</tr>
<tr>
<td>Right Bank</td>
<td>10</td>
<td>8 7 6</td>
<td>5 4 3</td>
<td>2 1 0</td>
</tr>
</tbody>
</table>

### Floodplain Vegetation

| Predominant floodplain vegetation type is mature forest | Predominant floodplain vegetation type is shrub or old field | Predominant floodplain vegetation type is turf or crop land |
| 20 19 18 17 (10) | 15 14 13 12 | 11 10 | 9 | 8 | 7 6 | 5 4 3 2 1 0 |

### Floodplain Habitat

| Even mix of wetland and non-wetland habitats, evidence of standing/ponded water | Either all wetland or all non-wetland habitat, no evidence of standing/ponded water | Either all wetland or all non-wetland habitat, no evidence of standing/ponded water |
| 20 19 (10) | 17 16 | 15 14 13 12 | 11 10 | 9 | 8 | 7 6 | 5 4 3 2 1 0 |

### Floodplain Encroachment

| No evidence of floodplain encroachment in the form of fill material, land development, or manmade structures | Minor floodplain encroachment in the form of fill material, land development, or manmade structures, but not affecting floodplain function | Moderate floodplain encroachment in the form of filling, land development, or manmade structures, some effect on floodplain function | Significant floodplain encroachment (i.e., fill material, land development, or man-made structures). Significant effect on floodplain function |
| 20 19 18 17 (10) | 15 14 13 12 | 11 10 | 9 | 8 | 7 6 | 5 4 3 2 1 0 |

Sub Total In-stream: 60/80 + Buffer/Floodplain: 67/80 = Total Survey Reach 127/160
Stream Crossing

**Watershed/Subshed:** WRS

**Survey Reach ID:** 01

**Time:** AM/PM

**Photo ID:** (Camera-Pic #) PCO100 # 35

**Site ID:** (Condition #) SC-

**Lat:** ° '

**Long:** ° '

**LMK:**

**GPS (Unit ID):**

**Type:**
- [ ] Road Crossing
- [ ] Railroad Crossing
- [ ] Manmade Dam
- [ ] Beaver Dam
- [ ] Geological Formation
- [ ] Other:

---

**Shape:**
- [ ] Arch
- [ ] Bottomless
- [ ] Box
- [ ] Elliptical
- [ ] Circular
- [ ] Other: HOT

**Barrels:**
- [ ] Single
- [ ] Double
- [ ] Triple
- [ ] Other:

**Material:**
- [ ] Concrete
- [ ] Flow-aligned
- [ ] Not flow-aligned
- [ ] Do not know

**Alignment:**
- [ ] Flow-aligned
- [ ] Not flow-aligned
- [ ] Do not know

**Dimensions:** (If variable, sketch)
- **Barrel diameter:** [ ] (ft)
- **Height:** [ ] (ft)
- **Culvert length:** [ ] (ft)
- **Width:** [ ] (ft)
- **Roadway elevation:** [ ] (ft)

**Potential Restoration Candidate:**
- [ ] Fish barrier removal
- [ ] Culvert repair/replacement
- [ ] Upstream storage retrofit
- [ ] Local stream repair
- [ ] Other: Sediment removal

**Is SC acting as grade control:**
- [ ] No
- [ ] Yes
- [ ] Unknown

---

**Extent of Physical Blockage:**
- [ ] Total
- [ ] Partial
- [ ] Temporary
- [ ] Unknown

**Cause:**
- [ ] Drop too high
- [ ] Water Drop: [ ] in
- [ ] Flow too shallow
- [ ] Water Depth: [ ] in
- [ ] Other:

**Blockage Severity:** (Circle #)
- 5
- 4
- 3
- 2
- 1

A structure such as a dam or road culvert on a 3rd order or greater stream blocking the upstream movement of anadromous fish; no fish passage device present.

A total fish blockage on a tributary that would isolate a significant reach of stream, or partial blockage that may interfere with the migration of anadromous fish.

A temporary barrier such as a beaver dam or a blockage at the very head of a stream with very little viable fish habitat above it; natural barriers such as waterfalls.

**Notes/Sketch:**

Only 1 bay (RB) is blocked with sediment; other bay is sufficient for fish passage.

Maybe investigate where sediment deposition began...
**Watershed/Subshed:** WNS

**Survey Reach:** 01

**Time:** 1:45 AM

**Photo ID:** (Camera-Pic #) K0100 # 30

**Site ID:** (Condition #) only one sheet

**start Lat:** 41° 50' 39" **Long:** 72° 44' 34" **LMK**

**End Lat:** **Long:** **LMK**

**Impact Bank:**☐ LT ☐ RT ☑ Both

**Reason Inadequate:** ☑ Lack of vegetation ☐ Too narrow ☐ Widespread invasive plants ☐ Recently planted ☐ Other:

**Land Use:**
- Private
- Institutional
- Golf Course
- Park
- Other Public
- (Facing downstream) LT Bank ☑
- RT Bank ☐

**Dominant Land Cover:**
- Paved
- Bare ground
- Turf/lawn
- Tall grass
- Shrub/scrub
- Trees
- Other
- LT Bank ☐
- RT Bank ☑

**Invasive Plants:** ☐ None ☐ Rare ☑ Partial coverage ☐ Extensive coverage ☐ unknown

**Stream Shade Provided?** ☐ None ☑ Partial ☐ Full ☐ Wetlands present? ☐ No ☑ Yes ☐ Unknown

**Potential Restoration Candidate:** ☑ Active reforestation ☑ Greenway design ☑ Natural regeneration ☑ Invasives removal ☑ No ☑ Other:

**Restorable Area**
- LT Bank 100
- RT 100

**Reforestation Potential:**
- (Circle #)

**Notes:** Impacts to LE & RB where residential limits come up to edge of brook 2 41° 50' 39" / 72° 44' 34" approx 100' length
### SURVEY REACH ID: 16

**WTRSHD/SUBSHD:** WBN

**DATE:** 12/1/09

**ASSESSED BY:** CM

---

**START**

**TIME:** 3:00 AM

**LMK:**

**LAT:** 41° 51' 06"

**LONG:** 72° 44' 27"

**DESCRIPTION:** Confidence with WBN-7/WBN-9

**END**

**TIME:** 4:00 AM

**LMK:**

**LAT:** 41° 51' 31"

**LONG:** 72° 43' 56"

**DESCRIPTION:** Confidence with WBN-5/WBN-4

---

### RAIN IN LAST 24 HOURS

- [ ] Heavy rain
- [ ] Steady rain
- [ ] None
- [ ] Intermittent
- [ ] Trace

### PRESENT CONDITIONS

- [ ] Heavy rain
- [ ] Steady rain
- [ ] Intermittent
- [ ] Trace
- [ ] Overcast
- [ ] Partly cloudy

### SURROUNDING LAND USE

- [ ] Industrial
- [ ] Commercial
- [ ] Urban/Residential
- [ ] Suburban/Residential
- [ ] Forested
- [ ] Institutional
- [ ] Golf course
- [ ] Park
- [ ] Crop
- [ ] Pasture
- [ ] Other:

### AVERAGE CONDITIONS

**BASE FLOW AS %**

- [ ] 0-25%
- [ ] 50-75%
- [ ] 75-100%

**CHANNEL WIDTH**

- [ ] 25-50%
- [ ] 75-100%

### DOMINANT SUBSTRATE

- [ ] Silt/clay (fine or slick)
- [ ] Cobble (2.5-10")
- [ ] Sand (gritty)
- [ ] Boulder (>10")
- [ ] Gravel (0.1-2.5")
- [ ] Bed rock

### WATER CLARITY

- [ ] Clear
- [ ] Turbid (suspended matter)
- [ ] Stained (clear, naturally colored)
- [ ] Opaque (milky)
- [ ] Other (chemicals, dyes)

### AQUATIC PLANTS IN STREAM

- [ ] Attached: none
- [ ] some
- [ ] lots
- [ ] Floating: none
- [ ] some
- [ ] lots

### WILDLIFE IN OR AROUND STREAM

(Evidence of)

- [ ] Fish
- [ ] Beaver
- [ ] Deer
- [ ] Snails
- [ ] Other:

### STREAM SHADING

(Shading)

- [ ] Mostly shaded (>75% coverage)
- [ ] Halfway (>50%)
- [ ] Partially shaded (>25%)
- [ ] Unshaded (<25%)

### CHANNEL DYNAMICS

- [ ] Downcutting
- [ ] Widening
- [ ] Headcutting
- [ ] Aggrading
- [ ] Sed. deposition
- [ ] Bed scour
- [ ] Bank failure
- [ ] Bank scour
- [ ] Slope failure
- [ ] Channelized

### CHANNEL DIMENSIONS

- [ ] Height: LT bank
- [ ] Width: Bottom
- [ ] Top

### REACH ACCESSIBILITY

Good: Open area in public ownership, sufficient room to stockpile materials, easy stream access for heavy equipment using existing roads or trails.

Fair: Forested or developed area adjacent to stream. Access requires tree removal or impact to landscaped areas. Stockpile areas small or distant from stream.

Difficult. Must cross wetland, steep slope, or sensitive areas to get to stream. Few access to stockpile available and located a great distance from stream. Specialized heavy equipment required.

---

**NOTES:** (biggest problem you see in survey reach)

Stone toe of railroad track

---

**REPORTED TO AUTHORITIES**

- Yes
- No
## Overall Stream Condition

<table>
<thead>
<tr>
<th>In-Stream Habitat (May modify criteria based on appropriate habitat regime)</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greater than 70% of substrate favorable for epilithic colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).</td>
<td>40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).</td>
<td>20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.</td>
<td>Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.</td>
<td></td>
</tr>
<tr>
<td>Vegetative Protection</td>
<td>More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.</td>
<td>70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.</td>
<td>50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.</td>
<td>Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.</td>
</tr>
<tr>
<td>Bank Erosion (facing downstream)</td>
<td>Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems.</td>
<td>Grade and width stable; isolated areas of bank failure/erosion; likely caused by a pipe outfall, local scour, impaired riparian vegetation or adjacent use.</td>
<td>Past downcutting evident, active stream widening, banks actively eroding at a moderate rate; no threat to property or infrastructure.</td>
<td>Active downcutting; tall banks on both sides of the stream eroding at a fast rate; erosion contributing significant amount of sediment to stream; obvious threat to property or infrastructure.</td>
</tr>
<tr>
<td>Floodplain Connection</td>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched.</td>
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</tr>
</tbody>
</table>

## Overall Buffer and Floodplain Condition

<table>
<thead>
<tr>
<th>Vegetated Buffer Width (except when adjacent to train track)</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width of buffer zone &gt;50 feet; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, crops) have not impacted zone.</td>
<td>Width of buffer zone 25-50 feet; human activities have impacted zone only minimally.</td>
<td>Width of buffer zone 10-25 feet; human activities have impacted zone a great deal.</td>
<td>Width of buffer zone &lt;10 feet; little or no riparian vegetation due to human activities.</td>
<td></td>
</tr>
<tr>
<td>Floodplain Vegetation</td>
<td>Predominant floodplain vegetation type is mature forest.</td>
<td>Predominant floodplain vegetation type is young forest.</td>
<td>Predominant floodplain vegetation type is shrub or old field.</td>
<td>Predominant floodplain vegetation type is turf or crop land.</td>
</tr>
<tr>
<td>Floodplain Habitat</td>
<td>Even mix of wetland and non-wetland habitats, evidence of standing/ponded water.</td>
<td>Even mix of wetland and non-wetland habitats, no evidence of standing/ponded water.</td>
<td>Either all wetland or all non-wetland habitat, evidence of standing/ponded water.</td>
<td>Either all wetland or all non-wetland habitat, no evidence of standing/ponded water.</td>
</tr>
<tr>
<td>Floodplain Encroachment Due to Man-Made Structures</td>
<td>No evidence of floodplain encroachment in the form of fill material, land development, or manmade structures.</td>
<td>Minor floodplain encroachment in the form of fill material, land development, or manmade structures, but not affecting floodplain function.</td>
<td>Moderate floodplain encroachment in the form of filling, land development, or manmade structures, some affect on floodplain function.</td>
<td>Significant floodplain encroachment (i.e. fill material, land development, or man-made structures). Significant effect on floodplain function.</td>
</tr>
</tbody>
</table>

Sub Total In-stream: \( \frac{17}{80} \) + Buffer/Floodplain: \( \frac{69}{80} \) = Total Survey Reach \( \frac{149}{160} \)
## Stream Crossing

**Stream Crossing:**

**Watershed/Subshed:** WD

**Survey Reach ID:** 0

**Time:** 5:30 AM

**Photo ID:** (Camera-Pic #) PC120 # 045

**Site ID:** (Condition #) SC: A

**Lat:** 31° 12' 47" N

**Long:** 80° 41' 23" W

**LMK:**

**GPS (Unit ID):**

---

**Type:**
- [ ] Road Crossing
- [ ] Railroad Crossing
- [ ] Manmade Dam
- [ ] Beaver Dam
- [ ] Geological Formation
- [ ] Other: Power line

**Shape:**
- [ ] Arch
- [x] Bottomless
- [ ] Box
- [ ] Elliptical
- [ ] Circular
- [ ] Other:

**For Road/ Railroad Crossings Only**

**Condition:** (Evidence of...)
- [ ] Cracking/chipping/corrosion
- [ ] Sediment deposition
- [ ] Other (describe):

**# Barrels:**
- [x] Single x 3
- [ ] Double
- [ ] Triple
- [ ] Other:

**Material:**
- [x] Concrete
- [ ] Metal
- [ ] Other:

**Alignment:**
- [x] Flow-aligned
- [ ] Not flow-aligned
- [ ] Do not know

**Dimensions:** (if variable, sketch)
- Barrel diameter: [ ] See below (ft)
- Height: [ ] Below (ft)
- Culvert length: [ ] (ft)
- Width: [ ] (ft)
- Roadway elevation: [ ] (ft)

---

**Potential Restoration Candidate:**
- [ ] Fish barrier removal
- [X] Culvert repair/replacement
- [ ] Upstream storage retrofit
- [ ] Local stream repair
- [ ] Other:

**Is SC acting as Grade Control:**
- [ ] No
- [ ] Yes
- [ ] Unknown

---

**Extent of Physical Blockage:**
- [ ] Total
- [ ] Partial
- [ ] Temporary
- [ ] Unknown

**Cause:**
- [ ] Drop too high
- [ ] Water Drop: [ ] (in)
- [ ] Flow too shallow
- [ ] Water Depth: [ ] (in)
- [ ] Other:

**Blockage Severity:** (circle #)
- [ ] 1
- [ ] 2
- [ ] 3
- [ ] 4
- [ ] 5

---

**Notes/Sketch:**

> 3 culverts 2 intersection of the stream channel with the powerline, right-of-way + the railroad track:

![Sketch diagram]

1. Culvert under right-of-way + west of RR track is 30" round concrete.
2. Culvert under RR tracks is open bottom box culvert 15' wide x 6' high.
3. Culvert under power line, R-0-W on east side of RR tracks is open concrete + 10'x3'.

---

**Reported to Authorities:**
- [ ] Yes
- [ ] No
**Stream Crossing**

**Watershed/Subshed:** W&N  
**Survey Reach ID:** 60  
**Time:** 4:15 AM  
**Photo ID:** (Camera-Pic #)  

**Site ID:** (Condition #) SC: 8  
**Lat:** 41° 51' 31"  
**Long:** 72° 43' 56"  
**LMK:**  
**GPS (Unit ID):**

**Type:** [x] Road Crossing  
[ ] Railroad Crossing  
[ ] Manmade Dam  
[ ] Beaver Dam  
[ ] Geological Formation  
[ ] Other:

**FOR ROAD/RAILROAD CROSSINGS ONLY**

- **Shape:**  
  - [ ] Arch  
  - [ ] Box  
  - [x] Circular  
  - [ ] Elliptical  
  - [ ] Other:

- **Barrels:**  
  - [x] Single  
  - [ ] Double  
  - [ ] Triple  
  - [ ] Other:

- **Material:**  
  - [x] Concrete  
  - [ ] Metal  
  - [ ] Other:

- **Alignment:**  
  - [x] Flow-aligned  
  - [ ] Not flow-aligned  
  - [ ] Do not know

**Dimensions:** (if variable, sketch)

- **Barrel diameter:** ___ (ft)
- **Height:** ___ (ft)
- **Culvert length:** ___ (ft)
- **Width:** ___ (ft)
- **Roadway elevation:** ___ (ft)

**Potential Restoration Candidate**

- [ ] Fish barrier removal  
- [ ] Culvert repair/replacement  
- [ ] Upstream storage retrofit
- [x] No  
- [x] Local stream repair  
- [ ] Other:

**Is SC acting as grade control**

- [x] No  
- [x] Yes  
- [ ] Unknown

**Extent of Physical Blockage:**

- [x] Total  
- [x] Partial  
- [ ] Temporary  
- [ ] Unknown

**If yes for fish barrier**

- **Cause:**  
  - [ ] Drop too high  
  - [ ] Water Drop: ___ (in)
  - [ ] Flow too shallow  
  - [ ] Water Depth: ___ (in)

**Blockage Severity:** (circle #)

- A structure such as a dam or road culvert on a 3rd order or greater stream blocking the upstream movement of anadromous fish, no fish passage device present.
- A total fish blockage on a tributary that would isolate a significant reach of stream, or partial blockage that may interfere with the migration of anadromous fish.
- A temporary barrier such as a beaver dam or a blockage at the very head of a stream with very little viable fish habitat above it; natural barriers such as waterfalls.

**Notes/Sketch:**

There is a concrete, round culvert under Peters Road, and then another concrete round culvert approx 30’ further upstream. There is constructed flow on these must be insufficient site it’s water pools. See photos.
**WATERSHED/SUBSHED:** WB N  
**SURVEY REACH:** 6  
**TIME:** AM/PM  
**PHOTO ID:** (Camera-Pic #)  
**SITE ID:**  
**START LAT:**  
**LONG:**  
**LMK:**  
**END LAT:**  
**LONG:**  
**LMK:**  
**IMPACTED BANK:**  
**REASON INADEQUATE:**  
**LAND USE:**  
**Dominant:**  
**LAND COVER:**  
**INVASIVE PLANTS:**  
**STREAM SHADE PROVIDED:**  
**POTENTIAL RESTORATION CANDIDATE:**  
**RESTORABLE AREA:**  
**REFORESTATION POTENTIAL:**  
**POTENTIAL CONFLICTS WITH REFORESTATION:**  
**NOTES:**

There are 4 areas of note where buffer has been impacted. These are all included on this form:

1. **Left Bank (LB)** 2 41°51'10"/72°44'23" where train tracks encroach into stream buffer (see photo previous)
2. **RB due to train tracks. No restoration potential**
3. LB behind residential home there is a washout from lack of vegetation / buffer. 2 41°51'20"/72°44'09"
4. Yard waste dumping along edge of LB + within the channel itself 2 41°51'23"/72°44'03" no photo potential restoration candidate by providing information or enhancement.
**Reach Level Assessment**

**SURVEY REACH ID:** BHR-01  
**WTRSHID/Subshid:** BLUE HILLS RES  
**DATE:** 10/5/09  
**ASSESSED BY:** BG+CM

**START**  
**TIME:** 12:00 PM  
**LMK:**  
**LAT:** 41° 51’ 55”  
**LONG:** 92° 42’ 39”  
**DESCRIPTION:** ABOVE CATTAIL POND

**END**  
**TIME:** 12:00 AM  
**LMK:**  
**LAT:** 41° 51’ 52”  
**LONG:** 92° 42’ 49”  
**DESCRIPTION:** NORWEST POND, N. OF RTE 187

**RAIN IN LAST 24 HOURS**  
- None

**PRESENT CONDITIONS**  
- None

**SURROUNDING LAND USE**  
- Industrial
- Commercial
- Golf course
- Park
- Urban/Residential
- Suburban/Residential
- Forested
- Institutional
- Crop
- Pasture
- Other:

**AVERAGE CONDITIONS (check applicable)**  
- Base Flow as % 70-25%  
- Channel Width 25-50%  
- 75-100%

**DOMINANT SUBSTRATE**  
- Silt/clay (fine or slick)
- Sand (gritty)
- Gravel (0.1-2.5")
- Cobble (2.5-10")
- Boulder (>10")
- Bed rock

**WATER CLARITY**  
- Clear
- Turbid (suspended matter)
- Stained (clear, naturally colored)
- Opaque (milk)
- Other (chemicals, dyes)

**AQUATIC PLANTS IN STREAM**  
- Attached: none
- Floating: none
- Some
- Lots

**WILDLIFE IN OR AROUND STREAM**  
- Evidence of:
  - Fish
  - Beaver
  - Deer
  - Snails
  - Other:

**STREAM SHADING (water surface)**  
- Mostly shaded (>75% coverage)
- Halfway (>50%)
- Partially shaded (>25%)
- Unshaded (< 25%)

**CHANNEL DYNAMICS**  
- Downcutting
- Widening
- Headcutting
- Aggrading
- Sed. deposition
- Bed scour
- Bank failure
- Bank scour
- Slope failure
- Channelized

**CHANNEL DIMENSIONS (FACING DOWNSTREAM)**  
- Height: L. bank
- R. bank
- Top

**REACH ACCESSIBILITY**  
- Good: Open area in public ownership, sufficient room to stockpile materials, easy stream channel access for heavy equipment using existing roads or trails.
- Fair: Forested or developed area adjacent to stream. Access requires tree removal or impact to landscaped areas. Stockpile areas small or distant from stream.
- Difficult: Must cross wetland, steep slope, or sensitive areas to get to stream. Few areas to stockpile available and located a great distance from stream. Specialized heavy equipment required.

**NOTES:** (biggest problem you see in survey reach)  
- DUMPING TRASH BEHIND ALVIN GLDE.  
- SANDY SEDIMENT DEPOSITION FROM ROUTE 187 AND DUDLEY TOWN ROAD INDUSTRIAL SITE

**REACHED TO AUTHORITIES**  
- Yes
- No
<table>
<thead>
<tr>
<th><strong>In-Stream Habitat</strong> (may modify criteria based on appropriate habitat regime)</th>
<th><strong>Optimal</strong></th>
<th><strong>Suboptimal</strong></th>
<th><strong>Marginal</strong></th>
<th><strong>Poor</strong></th>
</tr>
</thead>
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<tr>
<td>Greater than 70% of substrate favorable for epilithon colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).</td>
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<td>VEGETATIVE PROTECTION (score each bank, determine sides by facing downstream)</td>
<td></td>
<td></td>
<td></td>
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<td>More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understorey shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.</td>
<td>70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stature height remaining.</td>
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<td>Left Bank 10 9</td>
<td>8 7 6</td>
<td>5 4 3 2 1 0</td>
<td>2 0 0</td>
<td>2 0 0</td>
</tr>
<tr>
<td>Right Bank 10 9</td>
<td>8 7 6</td>
<td>5 4 3 2 1 0</td>
<td>2 0 0</td>
<td>2 0 0</td>
</tr>
<tr>
<td>BANK EROSION (facing downstream)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems.</td>
<td>Grade and width stable; isolated areas of bank failure/erosion; likely caused by a pipe outfall, local scour, impaired riparian vegetation or adjacent uses.</td>
<td>Post downcutting evident, active stream widening, banks actively eroding at a moderate rate; no threat to property or infrastructure.</td>
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<td>5 4 3</td>
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<td>5 4 3</td>
<td>2 0 0</td>
<td>2 0 0</td>
</tr>
<tr>
<td>FLOODPLAIN CONNECTION</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
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<tr>
<td>20 16</td>
<td>18 17 16</td>
<td>15 14 13 12 11</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1 0</td>
</tr>
</tbody>
</table>

**OVERALL BUFFER AND FLOODPLAIN CONDITION**

<table>
<thead>
<tr>
<th><strong>Vegetated Buffer Width</strong></th>
<th><strong>Optimal</strong></th>
<th><strong>Suboptimal</strong></th>
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<td><strong>Width of buffer zone &gt;50 feet; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, crop) have not impacted zone.</strong></td>
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<td>2 0 0</td>
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<td><strong>FLOODPLAIN VEGETATION</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Predominant floodplain vegetation type is mature forest.</td>
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<tr>
<td><strong>FLOODPLAIN HABITAT</strong></td>
<td></td>
<td></td>
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<td></td>
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<td>Even mix of wetland and non-wetland habitats, evidence of standing/ponded water.</td>
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<td>15 14 13 12 11</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1 0</td>
</tr>
<tr>
<td><strong>FLOODPLAIN ENCROACHMENT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No evidence of floodplain encroachment in the form of fill material, land development, or man-made structures.</td>
<td>Minor floodplain encroachment in the form of fill material, land development, or man-made structures, but not affecting floodplain function.</td>
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<td>15 14 13 12 11</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1 0</td>
</tr>
</tbody>
</table>

Sub Total In-stream: 68/80 + Buffer/Floodplain: 52/80 = Total Survey Reach 120/160
Trash and Debris

Watershed/Subshed: BH2

Survey Reach ID: 01

Time: 11:40 AM

Photo ID: (Camera-Pic #) PC8061 # 080

Site ID: (Condition #: TR- A) LAT 41° 51' 20" LONG 73° 42' 41"

Type:
- Ind/ustrial
- Commercial
- Residential

Material:
- Plastic
- Paper
- Metal
- Tires
- Construction
- Medical
- Appliances
- Yard Waste
- Automotive
- Other

Source:
- Unknown
- Flooding
- Illegal dump
- Local outfall
- Stream
- Riparian Area
- Underground

Location:
- Lt bank
- Rt bank

Land Ownership:
- Public
- Unknown
- Private - A/vin

Amount (# Pickup truck loads):

Potential Restoration Candidate:
- Stream cleanup
- Stream adoption segment
- Removal/prevention of dumping

Equipment Needed:
- Heavy equipment
- Trash bags
- Unknown

Who Can Do It:
- Volunteers
- Local Gov
- Hazmat Team
- Other

Clean-Up Potential:

A small amount of trash (i.e., less than two pickup truck loads) located inside a park with easy access.

Notes:
- Good candidate for restoration/cleanup. Prevention should be emphasized. Trash includes: washing machine, AC units, chunks of concrete, asphalt, concrete, metal pipe, old telephone poles, styrofoam, sheets of plastic, rolls of plastic, etc.
**Trash and Debris**

**Watershed/Subshed:** 8HR

**Survey Reach ID:** 01

**Site ID:** TR-B

**Lat:** 41° 51' 32" **Long:** 72° 40' 50"

**Photo ID:** (Camera-Pic #) BC080 #090

**Date:** 12/08/09

**Assessed By:** Own + BG

<table>
<thead>
<tr>
<th>Type:</th>
<th>Material:</th>
<th>Source:</th>
<th>Location:</th>
<th>Land Ownership:</th>
<th>Amount (# Pickup truck loads):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>Plastic</td>
<td>Unknown</td>
<td>Stream</td>
<td>Public</td>
<td>1 or 2</td>
</tr>
<tr>
<td></td>
<td>Tires</td>
<td></td>
<td>Riparian Area</td>
<td>Unknown</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Appliances</td>
<td></td>
<td>Local outfall</td>
<td>Private</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yard Wasté</td>
<td></td>
<td>Lt bank</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Automotive</td>
<td></td>
<td>Rt bank</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Potential Restoration Candidate:** Stream cleanup, Stream adoption segment, Removal/prevention of dumping

**If yes for trash or debris removal:** No

**Equipment Needed:**
- Heavy equipment
- Trash bags
- Unknown

**Who Can Do It:**
- Volunteers
- Local Gov
- Hazmat Team
- Other

**Cleanup Potential:**

- A small amount of trash (i.e., less than two pickup truck loads) located inside a park with easy access
- A large amount of trash, or bulk items, in a small area with easy access. Trash may have been dumped over a long period of time but it could be cleaned up in a few days, possibly with a small backhoe.
- A large amount of trash or debris scattered over a large area, where access is very difficult. Or presence of drums or indications of hazardous materials

**Notes:** Auto located in stream on upstream side of culvert.

**Reported to Authorities:** No

---

**Additional Notes:**
- The site is located near a stream, and the trash is affecting the aquatic life.
- The site has a high risk of contamination due to the presence of large amounts of trash.
- The local government has been notified and will initiate measures to clean up the site.

---

**Further Details:**
- The site is located in a heavily trafficked area, and the trash is affecting pedestrian and vehicular traffic.
- The site has a high risk of attracting wildlife, which can contaminate the food chain.

---

**Follow-Up Actions:**
- The local government will conduct a comprehensive cleanup operation.
- The site will be monitored for any signs of contamination.
- The public will be informed about the health risks associated with the site.
### Trash and Debris

**Watershed/Subshed:** RAP  
**Date:** 01/08/09  
**Assessed by:**  

**Survey Reach ID:** 01  
**Photo ID:** (Camera-Pic #) PC080  
**Site ID:** TR-C  
**Lat:** 41° 51’ 37”  
**Long:** 72° 42’ 52”  
**LMK:**  

#### Table: Material and Source

<table>
<thead>
<tr>
<th>Type</th>
<th>Material</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>Paper</td>
<td>Unknown</td>
</tr>
<tr>
<td></td>
<td>Metal</td>
<td>Unknown</td>
</tr>
<tr>
<td></td>
<td>Plastic</td>
<td>Stream</td>
</tr>
<tr>
<td></td>
<td>Tires</td>
<td>Flooding</td>
</tr>
<tr>
<td></td>
<td>Appliances</td>
<td>Illegal dump</td>
</tr>
<tr>
<td></td>
<td>Automotive</td>
<td>Local outfall</td>
</tr>
</tbody>
</table>

#### Table: Potential Restoration Candidate

- [x] Stream cleanup
- [ ] Stream adoption segment
- [x] Removal/prevention of dumping

- [x] Enforcement + wetland restoration

#### Table: Equipment Needed

- [ ] Heavy equipment
- [ ] Trash bags
- [ ] Unknown

#### Table: Who Can Do It

- [ ] Volunteers
- [ ] Local Gov
- [ ] Hazmat Team
- [ ] Other

#### Table: Dumpster Within 100 Ft

- [ ] Yes
- [x] No
- [ ] Unknown

#### Table: Clean-up Potential

<table>
<thead>
<tr>
<th>Clean-up Potential:</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Circle #)</td>
<td>(Circle #)</td>
</tr>
<tr>
<td>A small amount of trash (i.e., less than two pickup truck loads) located inside a park with easy access. Trash may have been dumped over a long period of time but could be cleaned up in a few days, possibly with a backhoe.</td>
<td>A large amount of trash or debris scattered over a large area, where access is very difficult. Or presence of drums or indications of hazardous materials.</td>
</tr>
</tbody>
</table>

#### Table: Notes

- Sediment washed from construction activities plus trash, tires, concrete, etc. The sediment should be removed by hand.

**Reported to Authorities:**  
- [x] Yes
- [ ] No
Trash and Debris

WATERSHED/SUBSHED: BH

SURVEY REACH ID: 01

SITE ID: 0

LAT: 41 ° 51' 41" LONG: 72 ° 42' 51"

TYPE: 
- [ ] Industrial
- [X] Commercial
- [ ] Residential

MATERIAL: 
- [X] Plastic
- [ ] Tires
- [ ] Construction
- [ ] Medical
- [ ] Appliances
- [ ] Yard Waste
- [ ] Automotive
- [ ] Other

SOURCE: 
- [X] Unknown
- [ ] Flooding
- [ ] Illegal dumping
- [ ] Local outfall

LOCATION: 
- [X] Stream
- [ ] Riparian Area
- [ ] Lt. bank
- [X] Rt. bank

LAND OWNERSHIP: 
- [X] Private
- [ ] Unknown
- [ ] Public

AMOUNT: [ ] Pickup truck load(s)

POTENTIAL RESTORATION CANDIDATE: 
- [X] Stream cleanup
- [ ] Stream adoption segment
- [X] Removal/prevention of dumping

If yes for trash or debris removal: 
- [ ] Heavy equipment
- [X] Trash bags
- [ ] Unknown

Who can do it: 
- [X] Volunteers
- [X] Local Gov
- [X] Hazmat Team
- [ ] Other

Dumpster within 100 ft: 
- [ ] Yes
- [ ] No
- [ ] Unknown

Clean-up potential: 
- [X] A small amount of trash (i.e., less than two pickup truck loads) located inside a park with easy access
- [ ] A large amount of trash, or bulk items, in a small area with easy access. Trash may have been dumped over a long period of time but it could be cleaned up in a few days, possibly with a small backhoe.
- [ ] A large amount of trash or debris scattered over a large area, where access is very difficult. Or presence of drums or indications of hazardous materials

Notes: Mostly yard waste, but also metal scraps. Private property - some kind of store.

Reported to authorities: 
- [ ] Yes
- [ ] No
### Storm Water Outfalls

**Watershed/Subshed:** BHK  
**Survey Reach ID:** 01  
**Site ID (Condition #):** OT-  
**Photo ID: (Camera-Pic #) PC080 ID 08, 09, 092  
**Date:** 2/08/09  
**Assessed by:** CMM  
**Time:** AM/PM

#### Site Information

<table>
<thead>
<tr>
<th>Bank:</th>
<th>□ LT □ RT □ Head</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow:</td>
<td>□ None □ Trickle</td>
</tr>
<tr>
<td></td>
<td>□ Moderate □ Substantial □ Other:</td>
</tr>
<tr>
<td>Condition:</td>
<td>□ None □ Chip/Scratched □ Peeling Paint □ Corrosion □ Other:</td>
</tr>
<tr>
<td>Odor:</td>
<td>□ No Gas □ Oily (x1) □ Rancid/Sour □ Sulfide □ Other:</td>
</tr>
<tr>
<td>Deposits/Stains:</td>
<td>□ None □ Flow Line □ Paint □ Other:</td>
</tr>
<tr>
<td>Veggie Density:</td>
<td>□ None □ Normal □ Inhibited □ Excessive □ Other:</td>
</tr>
<tr>
<td>Pipe Benthic Growth:</td>
<td>□ None □ Brown □ Orange □ Green □ Other:</td>
</tr>
<tr>
<td>Pool Quality:</td>
<td>□ No pool □ Good □ Odors □ Colors □ Oils □ Suds □ Algae □ Floatables □ Other:</td>
</tr>
</tbody>
</table>

### Flowing Only

| Color: | □ Clear □ Brown □ Grey □ Yellow □ Green □ Orange □ Red □ Other: |
| Turbidity: | □ None □ Slight Cloudiness □ Cloudy □ Opaque |
| Floatables: | □ None □ Sewage (toilet paper, etc.) □ Petroleum (oil sheen) □ Other: |

### Potential Restoration Candidate

- □ Discharge investigation
- □ Stream daylighting
- □ Local stream repair/outfall stabilization
- □ Storm water retrofit
- □ Other:

**If yes for daylighting:**

- Length of vegetative cover from outfall: _______ ft
- Type of existing vegetation: ________________
- Slope: _______

**If yes for stormwater:**

- Is stormwater currently controlled? □ Yes □ No □ Not investigated
- Land Use description: ____________________________
- Area available: ________________________________

### Outfall Severity

- **Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.**
- **Small discharge; flow mostly clear and odorless; if the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor/localized.**
- **Outfall does not have dry weather discharge, staining, or appearance of causing any erosion problems.**

### Sketch/Notes:

*See reverse side*
A "Y" shaped split or tributary or stormwater input to UB at the northern end of the building + parking lot area at 41°51'28" / 73°42'43"
see photo PCE080088 open channel.

Washout from construction site that has resulted in significant soil movement - potential site for sediment removal/cleanup/levelling
or RB at 41°51'37" / 73°42'52". See photos PCE080091 + 092.
**Stream Crossing**

**Watershed/Subshed:** BHR  
**Date:** 8/10/09  
**Assessed By:** OMT  
**Survey Reach Id:** 01  
**Time:** AM/PM  
**Photo Id:** (Camera Pic #) 0080 # 089, 090  
**Site Id:** (Condition #) SC-A  
**Lat:** 41° 51' 32"  
**Long:** 42° 50' 30"  
**LMK:**  
**GPS (Unit ID):**

**Type:**  
- [x] Road Crossing  
- [ ] Railroad Crossing  
- [ ] Manmade Dam  
- [ ] Beaver Dam  
- [ ] Geological Formation  
- [ ] Other:

**Shape:**  
- [ ] Arch  
- [ ] Bottomless  
- [x] Box  
- [x] Elliptical  
- [ ] Circular  
- [ ] Other:

**# Barrels:**  
- [x] Single  
- [ ] Double  
- [ ] Triple  
- [ ] Other:

**Material:**  
- [x] Concrete  
- [ ] Metal  
- [ ] Other:

**Alignment:**  
- [x] Flow-aligned  
- [ ] Not flow-aligned  
- [ ] Do not know

**Dimensions:** (If variable, sketch)  
- Barrel diameter: 24" (ft)  
- Height: (ft)  
- Culvert length: (ft)  
- Width: (ft)  
- Roadway elevation: (ft)

**Potential Restoration Candidate:**  
- [ ] Fish barrier removal  
- [ ] Culvert repair/replacement  
- [ ] Upstream storage retrofit  
- [ ] Local stream repair  
- [ ] Other:

**Is SC acting as grade control:**  
- [ ] No  
- [ ] Yes  
- [ ] Unknown

**Extent of Physical Blockage:**  
- [x] Total  
- [ ] Partial  
- [ ] Temporary  
- [ ] Unknown

**If yes for fish barrier:**  
- [ ] Drop too high  
- [ ] Water Drop: _______ (in)  
- [ ] Flow too shallow  
- [ ] Water Depth: _______ (in)  
- [ ] Other:

**Blockage Severity:** (Circle #)  
- [ ] 5  
- [ ] 4  
- [ ] 3  
- [ ] 2  
- [ ] 1

**Notes/Sketch:**  

- [ ] Reported to authorities  
- [x] Yes  
- [ ] No
**Watershed/Subshed:** BTHR  
**Date:** 10/09/09  
**Assessed by:** 

**Survey Reach ID:** 01  
**Time:** AM/PM  
**Photo ID:** (Camera-Pic #)  
**Site ID:** (Condition #) SC-B  
**Lat:** 41°51′43″  
**Long:** 73°42′50″  
**LMK**  
**GPS (Unit ID):** 

### Type: 
- [x] Road Crossing  
- [] Railroad Crossing  
- [] Mannmade Dam  
- [] Beaver Dam  
- [] Geological Formation  
- [] Other: 

### For Road/Railroad Crossings Only: 

- [x] Arch  
- [] Bottomless  
- [] Box  
- [x] Elliptical  
- [] Circular  
- [] Other: 

### Material: 
- [x] Concrete  
- [x] Flow-aligned  
- [ ] Not flow-aligned  
- [ ] Do not know  

### Alignment: 
- [ ] Single  
- [ ] Double  
- [ ] Triple  
- [ ] Other: 

### For Road/Railroad Crossings Only: 

- [x] Cracking/chipping/corrosion  
- [ ] Downstream scour hole  
- [ ] Sediment deposition  
- [ ] Failing embankment  
- [ ] Other (describe): 

### Culvert Slope: 
- [ ] Flat  
- [x] Slight (2° - 5°)  
- [x] Obvious (>5°)  

### Culvert Length: 
- [ ] (ft)  

### Culvert Width: 
- [ ] (ft)  

### Roadway Elevation: 
- [ ] (ft)  

### Potential Restoration Candidate: 
- [] Fish barrier removal  
- [] Culvert repair/replacement  
- [] Upstream storage retrofit  
- [ ] No  
- [x] Local stream repair  
- [ ] Other: 

### Is SC Acting as Grade Control: 
- [ ] No  
- [ ] Yes  
- [ ] Unknown  

### Extent of Physical Blockage: 
- [x] Partial  

### Cause: 
- [] Drop too high  
- [x] Water Drop: ___ (in)  
- [ ] Flow too shallow  
- [ ] Water Depth: ___ (in)  
- [x] Other: Soil Movement/Chopped  

### Blockage Severity: (circle #) 
- [x] A temporary barrier such as a beaver dam or a blockage at the very head of a stream with very little visible fish habitat above it; natural barriers such as waterfalls. 

### Notes/Sketch: 
- Soil Removal / Restoration.
### Survey Reach Data

- **Survey Reach ID:** 3
- **Wtrshd/Subshd:** WS5
- **Date:** 2/3/07
- **Assessed By:** CMH 66

#### Start / End Data
- **Start Time:** 12:00 AM/PM
- **Lmk:**
- **Lat:** 40° 05' 00" N
- **Long:** 72° 45' 04"
- **Description:** Culvert & dike
- **End Time:** 12:30 AM/PM
- **Lmk:**
- **Lat:** 40° 45' 04" N
- **Long:** 72° 44' 57"
- **Description:** Confluence w/ Tenakee River on Black River

#### Rain in Last 24 Hours
- None
- Intermittent
- Trace
- Overcast
- Partly cloudy

#### Surrounding Land Use
- Industrial
- Commercial
- Golf course
- Park
- Urban/Residential
- Suburban/Res
- Forested
- Institutional
- Other: Wet meadow (pasture)

#### Average Conditions

<table>
<thead>
<tr>
<th>Condition</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Flow as %</td>
<td>0-25%</td>
</tr>
<tr>
<td>Channel Width</td>
<td>25-50%</td>
</tr>
<tr>
<td>Dominant Substrate</td>
<td></td>
</tr>
<tr>
<td>Silts/Clay (fine or slick)</td>
<td></td>
</tr>
<tr>
<td>Sand (gritty)</td>
<td></td>
</tr>
<tr>
<td>Gravel (0.1-2.5&quot;)</td>
<td></td>
</tr>
<tr>
<td>Water Clarity</td>
<td></td>
</tr>
<tr>
<td>Clear</td>
<td></td>
</tr>
<tr>
<td>Turbid (suspended matter)</td>
<td></td>
</tr>
<tr>
<td>Stained (clear, naturally colored)</td>
<td></td>
</tr>
<tr>
<td>Opaque (milky)</td>
<td></td>
</tr>
<tr>
<td>Other (chemicals, dyes)</td>
<td></td>
</tr>
<tr>
<td>Aquatic Plants in Stream</td>
<td>Attached: some lots</td>
</tr>
<tr>
<td>W  none</td>
<td></td>
</tr>
<tr>
<td>Floating: some lots</td>
<td></td>
</tr>
<tr>
<td>Wild (Evidence of)</td>
<td></td>
</tr>
<tr>
<td>Fish</td>
<td></td>
</tr>
<tr>
<td>Beaver</td>
<td></td>
</tr>
<tr>
<td>Deer</td>
<td></td>
</tr>
<tr>
<td>Snails</td>
<td></td>
</tr>
<tr>
<td>Other:</td>
<td></td>
</tr>
<tr>
<td>Stream Shading</td>
<td>Mostly shaded (≥75% coverage)</td>
</tr>
<tr>
<td>(water surface)</td>
<td></td>
</tr>
<tr>
<td>Channel Dynamics</td>
<td></td>
</tr>
<tr>
<td>Downcutting</td>
<td></td>
</tr>
<tr>
<td>Widening</td>
<td></td>
</tr>
<tr>
<td>Headcutting</td>
<td></td>
</tr>
<tr>
<td>Aggrading</td>
<td></td>
</tr>
<tr>
<td>Sed. deposition</td>
<td></td>
</tr>
<tr>
<td>Channel Width</td>
<td></td>
</tr>
<tr>
<td>Mostly shaded (≥75% coverage)</td>
<td></td>
</tr>
<tr>
<td>Height (feet)</td>
<td>2'</td>
</tr>
<tr>
<td>Width (feet)</td>
<td>7.5'</td>
</tr>
<tr>
<td>Reach Dimensions</td>
<td></td>
</tr>
<tr>
<td>Channel Height (feet)</td>
<td>2'</td>
</tr>
<tr>
<td>Channel Width (feet)</td>
<td>7.5'</td>
</tr>
<tr>
<td>Reach Accessibility</td>
<td></td>
</tr>
<tr>
<td>Good: Open area in public ownership, sufficient room to stockpile materials, easy stream channel access for heavy equipment using existing roads or trails.</td>
<td></td>
</tr>
<tr>
<td>Fair: Forested or developed area adjacent to stream. Access requires tree removal or impact to landscaped areas. Stockpile areas small or distant from stream.</td>
<td></td>
</tr>
<tr>
<td>Difficult: Must cross wetland, steep slope, or sensitive areas to get to stream. Few areas to stockpile available and/or located a great distance from stream. Specialized heavy equipment required.</td>
<td></td>
</tr>
</tbody>
</table>

### Reach Sketch and Site Impact Tracking

Simple planar sketch of survey reach. Track locations and IDs for all site impacts within the survey reach (OT, ER, IB, SC, UT, TR, MI) as well as any additional features deemed appropriate. Indicate direction of flow.

#### Notes:

Some residential areas developed right up to bank on WSE of reach (patio, lawns, etc). Otherwise this is beautiful - mix of forested swamps.

 Reported to Authorities: Yes No
## Overall Stream Condition

<table>
<thead>
<tr>
<th>IN-STREAM HABITAT</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>(May modify criteria based on appropriate habitat regime)</td>
<td>Greater than 70% of substrate favorable for epifloral colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).</td>
<td>40-70% mix of stable habitat; well suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).</td>
<td>20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.</td>
<td>Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.</td>
</tr>
<tr>
<td><strong>20 19 18 17 16</strong></td>
<td><strong>14 13 12 11</strong></td>
<td><strong>10 9 8 7 6</strong></td>
<td><strong>5 4 3 2 1</strong></td>
<td></td>
</tr>
</tbody>
</table>

| VEGETATION PROTECTION | | | | |
| (score each bank, determine sides by facing downstream) | More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally. | 70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining. | 50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining. | Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height. |
| **Left Bank 10** | **8 7 6** | **5 4 3** | **2 1 0** | **2 1 0** |
| **Right Bank 10** | **8 7 6** | **5 4 3** | **2 1 0** | **2 1 0** |

| BANK EROSION | | | | |
| (facing downstream) | Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. | Grade and width stable; isolated areas of bank failure/erosion likely caused by a pipe outfall, local scour, impaired riparian vegetation or adjacent use. | Past downcutting evident, active stream widening, banks actively eroding at a moderate rate; no threat to property or infrastructure. | Active downcutting; tail banks on both sides of the stream eroding at a fast rate; erosion contributing significant amount of sediment to stream; obvious threat to property or infrastructure. |
| **Left Bank 10** | **8 7 6** | **5 4 3** | **2 1 0** | **2 1 0** |
| **Right Bank 10** | **8 7 6** | **5 4 3** | **2 1 0** | **2 1 0** |

| FLOODPLAIN CONNECTION | | | | |
| | High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched. | High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched. | High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched. | High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched. |
| **19 18 17 16** | **15 14 13 12 11** | **10 9 8 7 6** | **5 4 3 2 1** |

## Overall Buffer and Floodplain Condition

<table>
<thead>
<tr>
<th>VEGETATED BUFFER WIDTH</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width of buffer zone &gt;50 feet; human activities (i.e., parking lots, roadbeds, cleats-cut, lawns, crops) have not impacted zone.</td>
<td>Width of buffer zone 25-50 feet; human activities have impacted zone only minimally.</td>
<td>Width of buffer zone 10-25 feet; human activities have impacted zone a great deal.</td>
<td>Width of buffer zone &lt;10 feet; little or no riparian vegetation due to human activities.</td>
<td></td>
</tr>
<tr>
<td><strong>Left Bank 10</strong></td>
<td><strong>8 7 6</strong></td>
<td><strong>5 4 3</strong></td>
<td><strong>2 1 0</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Right Bank 10</strong></td>
<td><strong>8 7 6</strong></td>
<td><strong>5 4 3</strong></td>
<td><strong>2 1 0</strong></td>
<td></td>
</tr>
</tbody>
</table>

| FLOODPLAIN VEGETATION | | | | |
| Predominant floodplain vegetation type is mature forest. | Predominant floodplain vegetation type is young forest. | Predominant floodplain vegetation type is shrub or old field. | Predominant floodplain vegetation type is turf or crop land. |
| **20 19 18 17 16** | **15 14 13 12 11** | **10 9 8 7 6** | **5 4 3 2 1** |

| FLOODPLAIN HABITAT | | | | |
| Even mix of wetland and non-wetland habitats, evidence of standing/ponded water | Even mix of wetland and non-wetland habitats, no evidence of standing/ponded water | Either all wetland or all non-wetland habitat, evidence of standing/ponded water | Either all wetland or all non-wetland habitat, no evidence of standing/ponded water |
| **19 18 17 16** | **15 14 13 12 11** | **10 9 8 7 6** | **5 4 3 2 1** |

| FLOODPLAIN ENCROACHMENT | | | | |
| No evidence of floodplain encroachment in the form of fill material, land development, or manmade structures. | Minor floodplain encroachment in the form of fill material, land development, or manmade structures, but not affecting floodplain function. | Moderate floodplain encroachment in the form of filling, land development, or manmade structures, some effect on floodplain function. | Significant floodplain encroachment (i.e. fill material, land development, or man-made structures). Significant effect on floodplain function. |
| **20 19 18 17 16** | **15 14 13 12 11** | **10 9 8 7 6** | **5 4 3 2 1** |

Sub Total In-stream: **68/80** + Buffer/Floodplain: **57/80** = Total Survey Reach **23/160**
<table>
<thead>
<tr>
<th><strong>WATERSHED/SUBSHED:</strong></th>
<th>Wes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DATE:</strong></td>
<td>12/03/09</td>
</tr>
<tr>
<td><strong>ASSESSED BY:</strong></td>
<td>B.C.</td>
</tr>
<tr>
<td><strong>SURVEY REACH ID:</strong></td>
<td>03</td>
</tr>
<tr>
<td><strong>TIME:</strong></td>
<td>12:00 AM/PM</td>
</tr>
<tr>
<td><strong>PHOTO ID:</strong> (Camera-Pic #)</td>
<td>#</td>
</tr>
<tr>
<td><strong>SITE ID:</strong> (Condition #)</td>
<td>SC-__</td>
</tr>
<tr>
<td><strong>LAT:</strong></td>
<td>41° 50' 07&quot;</td>
</tr>
<tr>
<td><strong>LONG:</strong></td>
<td>72° 45' 04&quot;</td>
</tr>
<tr>
<td><strong>LMK:</strong></td>
<td>LMK</td>
</tr>
<tr>
<td><strong>GPS (Unit ID):</strong></td>
<td></td>
</tr>
</tbody>
</table>

**TYPE:**
- [ ] Road Crossing
- [ ] Railroad Crossing
- [X] Manmade Dam
- [ ] Beaver Dam
- [ ] Geological Formation
- [ ] Other:

**FOR ROAD/RAILROAD CROSSINGS ONLY**

<table>
<thead>
<tr>
<th>SHAPE:</th>
<th># BARRELS:</th>
<th>MATERIAL:</th>
<th>ALIGNMENT:</th>
<th>DIMENSIONS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ ] Arch</td>
<td>[ ] Single</td>
<td>[X] Concrete</td>
<td>[X] Flow-aligned</td>
<td>Barrel diameter: 5'/ft</td>
</tr>
<tr>
<td>[ ] Elliptical</td>
<td>[ ] Double</td>
<td>[ ] Metal</td>
<td>[ ] Not flow-aligned</td>
<td>Height: ___/ft</td>
</tr>
<tr>
<td>[X] Circular</td>
<td>[ ] Triple</td>
<td>[ ] Other</td>
<td>[ ] Do not know</td>
<td>Culvert length: ___/ft</td>
</tr>
<tr>
<td>[ ] Other</td>
<td>[ ] Other</td>
<td>[ ] Other</td>
<td>[ ] Roadway elevation: ___/ft</td>
<td></td>
</tr>
</tbody>
</table>

**CONDITION:** (Evidence of...)
- [ ] Cracking/chipping/corrosion
- [ ] Sediment deposition
- [ ] Other (describe):
- [ ] Downstream scour hole
- [ ] Failing embankment

**CULVERT SLOPE:**
- [ ] Flat
- [ ] Slight (2° - 5°)
- [ ] Obvious (>5°)

**POTENTIAL RESTORATION CANDIDATE**
- [ ] Fish barrier removal
- [ ] Culvert repair/replacement
- [ ] Upstream storage retrofit
- [ ] Local stream repair
- [ ] Other:

**IS SC ACTING AS GRADE CONTROL**
- [ ] No
- [ ] Yes
- [ ] Unknown

**EXTENT OF PHYSICAL BLOCKAGE:**
- [ ] Total
- [ ] Partial
- [ ] Temporary
- [ ] Unknown

**CAUSE:**
- [ ] Drop too high Water Drop: ___/in
- [ ] Flow too shallow Water Depth: ___/in
- [ ] Other:

**BLOCKAGE SEVERITY:** (circle #)

A structure such as a dam or road culvert on a 3rd order or greater stream blocking the upstream movement of anadromous fish; no fish passage device present.

A total fish blockage on a tributary that would isolate a significant reach of stream, or partial blockage that may interfere with the migration of anadromous fish.

A temporary barrier such as a beaver dam or a blockage at the very head of a stream with very little viable fish habitat above it; natural barriers such as waterfalls.

**NOTES/SKETCH:**

**REPORTED TO AUTHORITIES:**
- [ ] Yes
- [ ] No
**Watershed/Subshed:** WBS

**Survey Reach:** 3

**Time:** 2:30 AM

** rationale inadequate:**
- Lack of vegetation
- Too narrow
- Widespread invasive plants
- Recently planted
- Other:

**Land Use:**
- Private
- Institutional
- Golf Course
- Park
- Other Public
- Public

**Dominant Land Cover:**
- Paved
- Bare ground
- Turf/lawn
- Tall grass
- Shrub/scrub
- Trees
- Other

**Invasive Plants:**
- None
- Rare
- Partial coverage
- Extensive coverage
- Unknown

**Stream Shade Provided?**
- None
- Partial
- Full
- Wetlands Present?
- No
- Yes
- Unknown

**Potential Restoration Candidate**
- Active reforestation
- Greenway design
- Natural regeneration
- Invasives removal
- Other:

**Restorable Area**
- **Length (ft):** 0
- **Width (ft):**

**Reforestation Potential:**
- (Circle #)

<table>
<thead>
<tr>
<th>Impacted area on public land where the riparian area does not appear to be used for any specific purpose; plenty of area available for planting</th>
<th>Impacted area on either public or private land that is presently used for a specific purpose; available area for planting adequate</th>
<th>Impacted area on private land where road; building encroachment or other feature significantly limits available area for planting</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

**Potential Conflicts with Reforestation**
- Widespread invasive plants
- Potential contamination
- Lack of sun
- Poor/unsafe access to site
- Existing impervious cover
- Severe animal impacts (deer, beaver)
- Other:

**Notes:** Concrete or asphalt patio ready to break - RB
**SURVEY REACH ID:** WIBSON  
**WTSHD/SUBSHD:** WASH BROOK SOUT  
**DATE:** 12/3/09  
**ASSESSED BY:** RG + CM

---

**START**  
**TIME:** 11:30 AM  
**LMK:**  
**LAT:** 41° 50' ± 40"  
**LONG:** 70° 44' ± 59"  
**DESCRIPTION:** FROM AUTOLAVE ON [ ]

---

**END**  
**TIME:** 12:00 AM  
**LMK:**  
**LAT:** 41° 50' ± 36"  
**LONG:** 70° 44' ± 41"  
**DESCRIPTION:** CULVERT, TENSE PLAINS ROAD

---

**RAIN IN LAST 24 HOURS**  
- Heavy rain  
- Steady rain  
- None  
- Intermittent  
- Trace  
- Overcast  
- Partly cloudy

**SURROUNDING LAND USE**  
- Industrial  
- Commercial  
- Urban/Residential  
- Suburban/Res  
- Forested  
- Institutional  
- Golf course  
- Park  
- Crop  
- Pasture  
- Other:

---

**BASE FLOW AS %**  
- 0-25%  
- 25-50%  
- 50-75%  
- 75-100%

**CHANNEL WIDTH**  
- 25-50%  
- >50%

**DOMINANT SUBSTRATE**  
- Silt/clay (fine or slick)  
- Cobble (2.5-10")  
- Sand (gritty)  
- Boulder (>10")  
- Gravel (0.1-2.5")  
- Bed rock

**WATER CLARITY**  
- Clear  
- Turbid (suspended matter)  
- Stained (clear, naturally colored)  
- Opaque (milky)  
- Other (chemicals, dyes)

**AQUATIC PLANTS IN STREAM**  
- Attached: none, some, lots  
- Floating: none, some, lots

**WILDLIFE IN OR AROUND STREAM**  
- Evidence of: Fish  
- Beaver  
- Deer  
- Snails  
- Other: [HAWK, CREEK, FISH, BEAVER, DEER]

**STREAM SHADING**  
- Mostly shaded (>75% coverage)  
- Halfway (50%)  
- Partially shaded (25%)  
- Unshaded (<25%)

---

**CHANNEL DYNAMICS**  
- Downcutting  
- Widening  
- Headcutting  
- Aggrading  
- Sed. deposition  
- Bed scour  
- Bank failure  
- Bank sc.-

---

**CHANNEL HEIGHT**  
- Top bank  
- FT bank  
- Bottom  
- SF bank

**REACH ACCESSIBILITY**  
- Good: Open area in public ownership, sufficient room to stockpile materials, easy stream channel access for heavy equipment using existing roads or trails.
- Fair: Forested or developed area adjacent to stream. Access requires tree removal or impact to landscaped areas. Stockpile areas small or distant from stream.
- Difficult: Must cross wetland, steep slope, or sensitive areas to get to stream. Few areas to stockpile available and/or located a great distance from stream. Specialized heavy equipment required.

---

**REACH SKETCH AND SITE IMPACT TRACKING**  
Simple planar sketch of survey reach. Track locations and IDs for all site impacts within the survey reach (OT, ER, IB, SC, UT, TR, MI) as well as any additional features deemed appropriate. Indicate direction of flow.

---

**NOTES:** (biggest problem you see in survey reach)  
- RECENT POND EXCAVATION WITH VERY POOR ECOLOGY  
- SEDIMENT CONTROL PUTTING SEDIMENT INTO STREAM. ALSO EXTENSIVE BUFFER IMPACTS - TRASH, EQUIPMENT, MOVING POOL

---

**REPORTED TO AUTHORITIES**  
- Yes  
- No
<table>
<thead>
<tr>
<th>Habitat/Condition</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>In-stream Habitat</strong></td>
<td>Greater than 70% of substrate favorable for epilithic colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).</td>
<td>40-70% mix of stable habitat; well-suited for all colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of new leaf, but not yet prepared for colonization (may rate at high end of scale).</td>
<td>20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.</td>
<td>Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.</td>
</tr>
<tr>
<td><strong>Vegetative Protection</strong></td>
<td>More than 90% of the streambank surfaces and immediately riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.</td>
<td>70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.</td>
<td>50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than half of the potential plant stubble height remaining.</td>
<td>Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.</td>
</tr>
<tr>
<td><strong>Bank Erosion</strong></td>
<td>Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems.</td>
<td>Grade and width stable; isolated areas of bank failure/erosion; likely caused by a pipe outfall, local scour, impaired riparian vegetation or adjacent use.</td>
<td>Past downcutting evident; active stream widening, banks actively eroding at a moderate rate; no threat to property or infrastructure.</td>
<td>Active downcutting; tall banks on both sides of the stream eroding at a fast rate; erosion contributing significant amount of sediment to stream; obvious threat to property or infrastructure.</td>
</tr>
<tr>
<td><strong>Floodplain Connection</strong></td>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched.</td>
<td>High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched.</td>
</tr>
</tbody>
</table>

**OVERALL BUFFER AND FLOODPLAIN CONDITION**

<table>
<thead>
<tr>
<th>Vegetated Buffer Width</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width of buffer zone &gt;50 feet: human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, crops) have not impacted zone.</td>
<td>Width of buffer zone 25-50 feet; human activities have impacted zone only minimally.</td>
<td>Width of buffer zone 10-25 feet; human activities have impacted zone a great deal.</td>
<td>Width of buffer zone &lt;10 feet: little or no riparian vegetation due to human activities.</td>
<td></td>
</tr>
<tr>
<td><strong>Floodplain Vegetation</strong></td>
<td>Predominant floodplain vegetation type is mature forest</td>
<td>Predominant floodplain vegetation type is young forest</td>
<td>Predominant floodplain vegetation type is shrub or old field</td>
<td>Predominant floodplain vegetation type is turf or crop land.</td>
</tr>
<tr>
<td><strong>Floodplain Habitat</strong></td>
<td>Even mix of wetland and non-wetland habitats, evidence of standing/ponded water</td>
<td>Even mix of wetland and non-wetland habitats, no evidence of standing/ponded water</td>
<td>Either all wetland or all non-wetland habitat, evidence of standing/ponded water</td>
<td>Either all wetland or all non-wetland habitat, no evidence of standing/ponded water</td>
</tr>
<tr>
<td><strong>Floodplain Encroachment</strong></td>
<td>No evidence of floodplain encroachment in the form of fill material, land development, or man-made structures</td>
<td>Minor floodplain encroachment in the form of fill material, land development, or man-made structures, but not affecting floodplain function</td>
<td>Moderate floodplain encroachment in the form of filling, land development, or man-made structures, some effect on floodplain function</td>
<td>Significant floodplain encroachment (i.e. fill material, land development, or man-made structures). Significant effect on floodplain function</td>
</tr>
</tbody>
</table>

**Sub Total In-stream:** \( \frac{132}{80} \) + **Buffer/Floodplain:** \( \frac{18}{80} \) = **Total Survey Reach:** \( \frac{150}{80} \)
Trash and Debris

**WATERSHED/SUBSHED:** WB5  
**DATE:** 12/03/09  
**ASSESSED BY:** B.6-ton

**SURVEY REACH ID:** 0Y  
**TIME:** 12:30 PM  
**PHOTO ID:** (Camera-Pic #) Pict# 1# 38, 39, 41, 43

**SITE ID:** (Condition-#) TR-  
**LAT:**  
**LONG:**  
**LMK:**

**GPS:** (Unit ID)

**TYPE:**  
- [ ] Industrial  
- [ ] Commercial  
- [x] Residential

**MATERIAL:**  
- [ ] Plastic  
- [x] Tires  
- [ ] Appliances  
- [ ] Automotive  
- [ ] Other (Concrete)

**SOURCE:**  
- [x] Unknown  
- [ ] Flooding  
- [ ] Illegal dump  
- [ ] Local outfall

**LOCATION:**  
- [x] Stream  
- [ ] Riparian Area  
- [ ] Lt bank  
- [ ] Rt bank

**LAND OWNERSHIP:**  
- [ ] Public  
- [ ] Private

**AMOUNT (# Pickup truck loads):** 0

**POTENTIAL RESTORATION CANDIDATE:**  
- [x] Stream cleanup  
- [ ] Stream adoption segment  
- [x] Removal/prevention of dumping

**If yes for trash or debris removal:**  
- [ ] no  
- [ ] Other:

**EQUIPMENT NEEDED:**  
- [x] Heavy equipment  
- [ ] Trash bags  
- [ ] Unknown

**WHO CAN DO IT:**  
- [ ] Volunteers  
- [x] Local Gov  
- [ ] Hazmat Team  
- [ ] Other

**DUMPSTER WITHIN 100 FT:**  
- [x] Yes  
- [ ] No  
- [ ] Unknown

**CLEAN-UP POTENTIAL:**  
(Circle #)  
- 5  
- 4  
- 3  
- 2  
- 1

**NOTES:** Along a portion of this reach there are stone slabs, old telephone poles, stone gristmill wheels, placed in the stream channel between 41°50'35" / -92°44'48" through 41°50'36" / -92°44'41". Private residence these items may have sentimental value and have been added to channel to enhance setting.

**REPORTED TO AUTHORITIES:**  
- [x] YES  
- [ ] NO
**Watershed/Subshed:** We S  
**Survey Reach:**  
**Site ID:** (Condition #) **Impact Bank:** BT  
**START** LAT. **END** LAT.  
**LAT.** **LONG.** **LMK**  
**Reason Inadequate:** ☑ Lack of vegetation ☑ Too narrow ☑ Widespread invasive plants ☑ Recently planted ☑ Other: Recent excavation in week + no planting  
**Land Use:** Private Institutional Golf Course Park Other Public  
(Facing downstream) LT Bank ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ RT Bank ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑  
**Dominant Land Cover:** Paved Bare ground Turf/lawn Tall grass Shrub/scrub Trees Other  
LT Bank ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑ RT Bank ☑ ☑ ☑ ☑ ☑ ☑ ☑ ☑  
**Invasive Plants:** ☑ None ☑ Rare ☑ Partial coverage ☑ Extensive coverage ☑ unknown  
**Stream Shade Provided?** ☑ None ☑ Partial ☑ Full ☑ Wetlands Present? ☑ No ☑ Yes ☑ Unknown  
**Potential Restoration Candidate** ☑ Active reforestation ☑ Greenway design ☑ Natural regeneration ☑ Invasives removal ☑ No ☑ Other: Enhancement?  
**Restorable Area**  
Length (ft): √ 200' √ 200' ±  
Width (ft):  
**Reforestation Potential:** (Circle #)  
Impact area on public land where the riparian area does not appear to be used for any specific purpose; plenty of area available for planting  
Impact area on either public or private land that is presently used for a specific purpose; available area for planting adequate  
Impact area on private land where road; building encroachment or other feature significantly limits available area for planting  
**Potential Conflicts with Reforestation** ☑ Widespread invasive plants ☑ Potential contamination ☑ Lack of sun ☑ Poor/unsafe access to site ☑ Existing impervious cover ☑ Severe animal impacts (deer, beaver) ☑ Other:  
**Notes:** → Dumping (including AC unit, pots, bricks, bottles, insulation, parts of an above-ground swimming pool) = 41° 50' 33" / 72° 49' 56"  
→ Further downstream from dumpsite (✓) + possibly the same property, there is a recently excavated pond. There is trash, sediment, excess nutrients, no shade cover, runoff + no mulch/seed down on topsoil  
→ Shall dam + watergate with footbridge here as well.
Impacted Buffer

<table>
<thead>
<tr>
<th>IMPACTED BANK:</th>
<th>REASON INADEQUATE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ LT □ RT □ Both</td>
<td>□ Lack of vegetation □ Too narrow □ Widespread invasive plants</td>
</tr>
<tr>
<td>□ Recently planted □ Other:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LAND USE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private □ Institutional □ Golf Course □ Park □ Other Public □</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DOMINANT LAND COVER:</th>
</tr>
</thead>
<tbody>
<tr>
<td>LT Bank □ Paved □ Bare ground □ Turf/lawn □ Tall grass □ Shrub/scrub □ Trees □ Other □</td>
</tr>
<tr>
<td>RT Bank □ Paved □ Bare ground □ Turf/lawn □ Tall grass □ Shrub/scrub □ Trees □ Other □</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INVASIVE PLANTS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ None □ Rare □ Partial coverage □ Extensive coverage □ unknown</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STREAM SHADE PROVIDED?</th>
<th>WETLANDS PRESENT?</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ None □ Partial □ Full</td>
<td>□ No □ Yes □ Unknown</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>POTENTIAL RESTORATION CANDIDATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Active reforestation □ Greenway design □ Natural regeneration □ Invasives removal</td>
</tr>
<tr>
<td>□ no □ Other:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RESTORABLE AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ LT Bank □ RT Bank</td>
</tr>
<tr>
<td>Length (ft): □ 500 □ 500</td>
</tr>
<tr>
<td>Width (ft): □</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>REFORESTATION POTENTIAL:</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Impact area on public land where the riparian area does not appear to be used for any specific purpose; plenty of area available for planting</td>
</tr>
<tr>
<td>□ Impact area on either public or private land that is presently used for a specific purpose; available area for planting adequate</td>
</tr>
<tr>
<td>□ Impact area on private land where road, building encroachment or other feature significantly limits available area for planting</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>POTENTIAL CONFLICTS WITH REFORESTATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Widespread invasive plants □ Potential contamination □ Lack of sun</td>
</tr>
<tr>
<td>□ Poor/unsafe access to site □ Existing impervious cover □ Severe animal impacts (deer, beaver) □ Other:</td>
</tr>
</tbody>
</table>

NOTES: Private lawn - old from property, not likely rest. candidate but worth noting as the lack of shade from such a long stretch of stream may temps downstream.
**Stream Crossing**

<table>
<thead>
<tr>
<th>WATERSHED/SUBSHED:</th>
<th>WES</th>
<th>DATE:</th>
<th>2/10/09</th>
<th>ASSESSED BY:</th>
<th>CMI + 86</th>
</tr>
</thead>
<tbody>
<tr>
<td>SURVEY REACH ID:</td>
<td>04</td>
<td>TIME:</td>
<td>12:30 AM</td>
<td>PHOTO ID:</td>
<td>(Camera-Pic #) 0501</td>
</tr>
<tr>
<td>SITE ID:</td>
<td>SC-A</td>
<td>LAT:</td>
<td></td>
<td>LONG:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TYPE:</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Road Crossing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Railroad Crossing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mannmade Dam</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beaver Dam</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geological Formation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**FOR ROAD/RAILROAD CROSSINGS ONLY**

<table>
<thead>
<tr>
<th>SHAPE:</th>
<th># BARRELS:</th>
<th>MATERIAL:</th>
<th>ALIGNMENT:</th>
<th>DIMENSIONS: (if variable, sketch)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arch</td>
<td>Single</td>
<td>Concrete</td>
<td>Flow-aligned</td>
<td>Barrel diameter: _________ (ft)</td>
</tr>
<tr>
<td>Box</td>
<td>Double</td>
<td>Metal</td>
<td>Not flow-aligned</td>
<td>Height: _________ (ft)</td>
</tr>
<tr>
<td>Circular</td>
<td>Triple</td>
<td>Other</td>
<td>Do not know</td>
<td>Culvert length: _________ (ft)</td>
</tr>
<tr>
<td>Other:</td>
<td>Other:</td>
<td></td>
<td></td>
<td>Culvert width: _________ (ft)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CONDITION: (Evidence of...)</th>
<th>Culvert SLOPE:</th>
<th>PROSPECTIVE RESTORATION CANDIDATE</th>
<th>IS SC ACTING AS GRADE CONTROL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cracking/chipping/corrosion</td>
<td>Flat</td>
<td>Fish barrier removal</td>
<td>no</td>
</tr>
<tr>
<td>Sediment deposition</td>
<td>Slight (2°-5°)</td>
<td>Culvert repair/replacement</td>
<td>Local stream repair</td>
</tr>
<tr>
<td>Other (describe):</td>
<td>Obvious (&gt;5°)</td>
<td>Upstream storage retrofit</td>
<td>Other:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>POTENTIAL RESTORATION CANDIDATE</th>
<th></th>
<th>BLOCKAGE SEVERITY: (circle #)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fish barrier removal</td>
<td>A structure such as a dam or road culvert on a 3rd order or greater stream blocking the upstream movement of anadromous fish; no fish passage device present.</td>
<td></td>
</tr>
<tr>
<td>Culvert repair/replacement</td>
<td>A total fish blockage on a tributary that would isolate a significant reach of stream, or partial blockage that may interfere with the migration of anadromous fish.</td>
<td></td>
</tr>
<tr>
<td>Upstream storage retrofit</td>
<td>A temporary barrier such as a beaver dam or a blockage at the very head of a stream with very little viable fish habitat above it; natural barriers such as waterfalls.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EXISTENT OF PHYSICAL BLOCKAGE:</th>
<th>BLOCKAGE SEVERITY: (circle #)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>A structure such as a dam or road culvert on a 3rd order or greater stream blocking the upstream movement of anadromous fish; no fish passage device present.</td>
</tr>
<tr>
<td>Partial</td>
<td>A total fish blockage on a tributary that would isolate a significant reach of stream, or partial blockage that may interfere with the migration of anadromous fish.</td>
</tr>
<tr>
<td>Temporary</td>
<td>A temporary barrier such as a beaver dam or a blockage at the very head of a stream with very little viable fish habitat above it; natural barriers such as waterfalls.</td>
</tr>
</tbody>
</table>

**If yes for fish barrier**

<table>
<thead>
<tr>
<th>CAUSE:</th>
<th>Water Drop: _______ (in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drop too high</td>
<td>Water Drop: _______ (in)</td>
</tr>
<tr>
<td>Flow too shallow</td>
<td>Water Depth: _______ (in)</td>
</tr>
<tr>
<td>Other:</td>
<td></td>
</tr>
</tbody>
</table>

**NOTES/SKETCH:**

A small footbridge is at 41°50'35" / 70°41'54" (see photos 34 and 30). Under the bridge, there are dams/waterfalls at both sites.

REPORTED TO AUTHORITIES: Yes [X] No
**Stream Crossing**

**Watershed/Subshed:** WBS  
**Survey Reach ID:** 04  
**Time:** AM/PM  
**Photo ID:** (Camera-Pic #) A800  
**Site ID:** (Condition #) SC-B  
**LAT:** 41° 50' 30"  
**LONG:** 72° 44' 45"  
**LMK:**  
**GPS (Unit ID):**

**Type:** [Road Crossing]

**Shape:**
- [■] Arch  
- [□] Box  
- [□] Circular  
- [□] Other:

**# Barrels:**
- [□] Single  
- [□] Double  
- [□] Triple  
- [□] Other:

**Material:**
- [□] Concrete  
- [□] Metal  
- [□] Other:

**Alignment:**
- [□] Flow-aligned  
- [□] Not flow-aligned  
- [□] Do not know

**Dimensions:** (if variable, sketch)
- [□] Barrel diameter: _______ (ft)
- [□] Height: _______ (ft)
- [□] Culvert length: _______ (ft)
- [□] Width: _______ (ft)
- [□] Roadway elevation: _______ (ft)

**Potential Restoration Candidate**
- [□] Fish barrier removal  
- [□] Culvert repair/replacement  
- [□] Upstream storage retrofit  
- [□] No  
- [□] Local stream repair  
- [□] Other:

**Is SC acting as grade control?**
- [□] No  
- [□] Yes  
- [□] Unknown

**Extent of Physical Blockage:**
- [□] Total  
- [□] Partial  
- [□] Temporary  
- [□] Unknown

**Cause:**
- [□] Drop too high  
- [□] Flow too shallow  
- [□] Other:

**Water Drop:** _______ (in)

**Blockage Severity:** (circle #)
- [□] Low  
- [□] Medium  
- [□] High

A structure such as a dam or road culvert on a 3rd order or greater stream blocking the upstream movement of anomalous fish; no fish passage device present.

A total fish blockage on a tributary that would isolate a significant reach of stream, or partial blockage that may interfere with the migration of anomalous fish.

A temporary barrier such as a beaver dam or a blockage at the very head of a stream with very little viable fish habitat above it; natural barriers such as waterfalls.

**Notes/Sketch:**

Delivery crossing - rip rap on downstream side on US 6

*Linens on both banks.*
Stream Crossing

| WATERSHED/SUBSHED: WB5 | DATE: 12/18/09 | ASSESSED BY: CH
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SURVEY REACH ID: ch</td>
<td>TIME: 1:00 AM</td>
<td>PHOTO ID: (Camera-Pic #) 90300 # 12</td>
</tr>
<tr>
<td>SITE ID: (Condition #) SC-C</td>
<td>LAT 41°50'10&quot; LONG 72°44'41&quot;</td>
<td>GPS (Unit ID)</td>
</tr>
</tbody>
</table>

**Type:**
- Road Crossing [x]
- Railroad Crossing [ ]
- Manmade Dam [ ]
- Beaver Dam [ ]
- Geological Formation [ ]
- Other: [ ]

**For Road/ Railroad Crossings Only**

<table>
<thead>
<tr>
<th>SHAPE:</th>
<th># BARRELS:</th>
<th>MATERIAL:</th>
<th>ALIGNMENT:</th>
<th>DIMENSIONS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arch</td>
<td>Single</td>
<td>Concrete</td>
<td>Flow-aligned</td>
<td>Barrel Diameter: (ft)</td>
</tr>
<tr>
<td>Bottomless</td>
<td>Double</td>
<td>Metal</td>
<td>Not flow-aligned</td>
<td>Height: (ft)</td>
</tr>
<tr>
<td>Box</td>
<td>Triple</td>
<td>Other:</td>
<td>Do not know</td>
<td>Culvert length: (ft)</td>
</tr>
<tr>
<td>Circular</td>
<td>Other:</td>
<td></td>
<td></td>
<td>Width: (ft)</td>
</tr>
<tr>
<td>Other:</td>
<td></td>
<td></td>
<td></td>
<td>Roadway elevation: (ft)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Condition:**
- Cracking/chipping/corrosion [ ]
- Sediment deposition [ ]
- Other (describe): [ ]

- Downstream scour hole [ ]
- Failing embankment [ ]

**Culvert Slope:**
- Flat [ ]
- Slight (2° - 5°) [ ]
- Obvious (>5°) [ ]

**Potential Restoration Candidate:**
- Fish barrier removal [x]
- Culvert repair/replacement [ ]
- Upstream storage retrofit [ ]

- No [ ]
- Local stream repair [x]
- Other: [ ]

**Is SC acting as Grade Control:**
- No [x]
- Yes [ ]
- Unknown [ ]

**Extent of Physical Blockage:**
- Total [x]
- Partial [ ]
- Temporary [ ]
- Unknown [ ]

**Cause:**
- Drop too high [ ]
- Flow too shallow [ ]
- Other: [ ]

**Water Drop:** (in)

**Water Depth:** (in)

**Blockage Severity:**
- A structure such as a dam or road culvert on a 3rd order or greater stream blocking the upstream movement of anadromous fish; no fish passage device present. [x]
- A total fish blockage on a tributary that would isolate a significant reach of stream, or portal blockage that may interfere with the migration of anadromous fish. [ ]
- A temporary barrier such as a beaver dam or a blockage at the very head of a stream with very little viable fish habitat above it; natural barriers such as waterfalls. [ ]

**Notes/Sketch:** Streamwater pipe next to culvert pipe (miles)

**Reported to Authorities:**
- Yes [x]
- No [ ]
### Reach Level Assessment

**Survey Reach ID:** L6  
**WTRSH/Subsh:** WRS  
**Date:** 1/21/01  
**Assessed by:** CM/66

**Start Time:** 11:30 AM  
**LMK:**  
**Lat:** 41° 50’ 16”  
**Long:** 72° 44’ 19”  
**Description:** Convergence of WRS-8 and WRS-7

**End Time:** 1:30 AM  
**LMK:**  
**Lat:** 41° 50’ 37”  
**Long:** 72° 44’ 33”  
**Description:** Convergence with WRS-5

---

**Rain in Last 24 Hours:**  
- None
- Steady rain

**Present Conditions:**  
- None
- Intermittent

**Surrounding Land Use:**  
- Industrial
- Commercial
- Golf course
- Park
- Urban/Residential
- Suburban/Residential
- Forested
- Institutional
- Crop
- Pasture
- Other

---

### Average Conditions

<table>
<thead>
<tr>
<th>Condition</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Flow as %</td>
<td>0-25%</td>
</tr>
<tr>
<td>Channel Width</td>
<td>25-50%</td>
</tr>
<tr>
<td></td>
<td>50-75%</td>
</tr>
<tr>
<td></td>
<td>75-100%</td>
</tr>
</tbody>
</table>

**Dominant Substrate:**  
- Silt/clay (fine or slick)
- Cobble (2.5 -10")
- Sand (gritty)
- Boulder (>10")
- Gravel (0.1-2.5")
- Bed rock

**Water Clarity:**  
- Clear
- Turbid (suspended matter)
- Stained (clear, naturally colored)
- Opaque (milky)
- Other (chemicals, dyes)

**Aquatic Plants in Stream:**  
- Attached: none
- Floating: none

**Wildlife in or Around Stream:**  
- Evidence of
- Fish
- Beaver
- Deer
- Snails
- Other:

**Stream Shading (water surface):**  
- Mostly shaded (≥75% coverage)
- Halfway (≥50%)
- Partially shaded (≥25%)
- Unshaded (<25%)

**Channel Dynamics:**  
- Downcutting
- Widening
- Headcutting
- Aggrading
- Sedimentation
- Bed scour
- Bank failure
- Bank scour
- Slope failure
- Channelized

**Bankfull Channel Dimensions (Facing Downstream):**  
- Height: 4’ (ft)
- Width: 23’ (ft)

---

### Reach Sketch and Site Impact Tracking

Simple planar sketch of survey reach. Track locations and IDs for all site impacts within the survey reach (OT, ER, IB, SC, UT, TR, MI) as well as any additional features deemed appropriate. Indicate direction of flow.

---

**Reach Accessibility:**  
- Good: Open area in public ownership, sufficient room to stockpile materials, easy stream channel access for heavy equipment using existing roads or trails.
- Fair: Forested or developed area adjacent to stream. Access requires tree removal or impact to landscaped areas. Stockpile areas small or distant from stream.
- Difficult: Must cross wetland, steep slope, or sensitive areas to get to stream. Few areas to stockpile available and/or located a great distance from stream. Specialized heavy equipment required.

**Notes:**  
- Biggest problem seen in survey reach:
  - Garden "escapes" such as Pachysandra + Japanese barberry are common, and in some areas these plants dominate their stream.
- Reported to authorities: Yes/No

---

**Reach Name:**
- Reported to authorities: Yes/No

---

**Reach Description:**
- "Green Reach Among Residential Homes"
### OVERALL STREAM CONDITION

<table>
<thead>
<tr>
<th>IN-STREAM HABITAT</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Habitat</td>
<td>Greater than 70% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transients).</td>
<td>40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).</td>
<td>20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.</td>
<td>Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>VEGETATIVE PROTECTION</th>
<th>8</th>
<th>5</th>
<th>6</th>
<th>3</th>
<th>2</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protection</td>
<td>9</td>
<td>7</td>
<td>6</td>
<td>3</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>(score each bank, determine sides by facing downstream)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Left Bank</td>
<td>10</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Right Bank</td>
<td>10</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BANK EROSION (facing downstream)</th>
<th>9</th>
<th>7</th>
<th>6</th>
<th>3</th>
<th>2</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Erosion</td>
<td>9</td>
<td>7</td>
<td>6</td>
<td>3</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Left Bank</td>
<td>10</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Right Bank</td>
<td>10</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FLOODPLAIN CONNECTION</th>
<th>9</th>
<th>7</th>
<th>6</th>
<th>3</th>
<th>2</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection</td>
<td>9</td>
<td>7</td>
<td>6</td>
<td>3</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>High flow (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>20</td>
<td>19</td>
<td>18</td>
<td>17</td>
<td>16</td>
<td>15</td>
</tr>
<tr>
<td>High flow (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>20</td>
<td>19</td>
<td>18</td>
<td>17</td>
<td>16</td>
<td>15</td>
</tr>
</tbody>
</table>

### OVERALL BUFFER AND FLOODPLAIN CONDITION

<table>
<thead>
<tr>
<th>VEGETATED BUFFER WIDTH</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width of buffer zone &gt;50 feet; human activities (i.e., parking lots, roadsides, clear-cuts, lawns, crops) have not impacted zone.</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Left Bank</td>
<td>9</td>
<td>7</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Right Bank</td>
<td>9</td>
<td>7</td>
<td>6</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FLOODPLAIN VEGETATION</th>
<th>9</th>
<th>7</th>
<th>6</th>
<th>3</th>
<th>2</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vegetation</td>
<td>9</td>
<td>7</td>
<td>6</td>
<td>3</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Predominant floodplain vegetation type is mature forest</td>
<td>20</td>
<td>19</td>
<td>18</td>
<td>17</td>
<td>16</td>
<td>15</td>
</tr>
<tr>
<td>Predominant floodplain vegetation type is shrub or old field</td>
<td>10</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FLOODPLAIN HABITAT</th>
<th>9</th>
<th>7</th>
<th>6</th>
<th>3</th>
<th>2</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Habitat</td>
<td>9</td>
<td>7</td>
<td>6</td>
<td>3</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Even mix of wetland and non-wetland habitats, evidence of standing/ponded water</td>
<td>20</td>
<td>19</td>
<td>18</td>
<td>17</td>
<td>16</td>
<td>15</td>
</tr>
<tr>
<td>Either all wetland or all non-wetland habitat, evidence of standing/ponded water</td>
<td>20</td>
<td>19</td>
<td>18</td>
<td>17</td>
<td>16</td>
<td>15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FLOODPLAIN ENCROACHMENT</th>
<th>9</th>
<th>7</th>
<th>6</th>
<th>3</th>
<th>2</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Encroachment</td>
<td>9</td>
<td>7</td>
<td>6</td>
<td>3</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>No evidence of floodplain encroachment in the form of fill material, land development, or manmade structures</td>
<td>20</td>
<td>19</td>
<td>18</td>
<td>17</td>
<td>16</td>
<td>15</td>
</tr>
<tr>
<td>Moderate floodplain encroachment in the form of filling, land development, or manmade structures, some effect on floodplain function</td>
<td>20</td>
<td>19</td>
<td>18</td>
<td>17</td>
<td>16</td>
<td>15</td>
</tr>
</tbody>
</table>

Sub Total In-stream: 60 /80  +  Buffer/Floodplain: 60 /80  =  Total Survey Reach 120 /160
**WATERSHED/SUBSHED:** W15

**SURVEY REACH:** 06

**DATE:** 1/01/09 **TIME:** 12:40 AM/PM **ASSESSED BY:** CM+BG

**SITE ID:** (Condition #) **START LAT:** 41° 30' 15" **LONG:** 72° 04' 19.5" **LMK:**

**REASON INADEQUATE:**
- ☒ Lack of vegetation
- ☒ Too narrow
- ☒ Widespread invasive plants
- ☐ Recently planted
- ☐ Other: [Handwritten]

**LAND USE:**
- Private
- Institutional
- Golf Course
- Park
- Other: Public

**DOMINANT LAND USE:**
- Paved
- Bare ground
- Turf/lawn
- Tall grass
- Shrub/scrub
- Trees
- Other

**LAND COVER:**
- LT Bank ☐
- RT Bank ☒

**INVASIVE PLANTS:**
- ☐ None
- ☒ Rare
- ☐ Partial coverage
- ☒ Extensive coverage
- ☐ unknown

**STREAM SHADE PROVIDED?**
- ☐ None
- ☒ Partial
- ☐ Full
- ☐ Yes
- ☐ Unknown

**WETLANDS PRESENT?**
- ☐ No
- ☐ Yes

**POTENTIAL RESTORATION CANDIDATE**
- ☒ Active reforestation
- ☒ Greenway design
- ☒ Natural regeneration
- ☐ Invasives removal

**REFORESTATION POTENTIAL:**
- Impacted area on public land where the riparian area does not appear to be used for any specific purpose; plenty of area available for planting
- Impacted area on either public or private land that is presently used for a specific purpose; available area for planting adequate
- Impacted area on private land where road; building encroachment or other feature significantly limits available area for planting

**RELEASABLE AREA**
- Length (ft): ☐
- Width (ft): ☐

**POTENTIAL CONFLICTS WITH REFORESTATION**
- ☒ Widespread invasive plants
- ☒ Potential contamination
- ☐ Lack of sun
- ☐ Poor/unsafe access to site
- ☐ Existing impervious cover
- ☒ Severe animal impacts (deer, beaver)
- ☐ Other: [Handwritten]

**NOTES:**
- [Handwritten]
**WATERSHED/SUBSHED:** WBS

**SURVEY REACH:**

**SITE ID:** IB-6

**START** LAT 41° 50' 28" LONG 72° 44' 25"

**END** LAT 41° 50' 28" LONG 72° 44' 25"

**IMPACTED BANK:**
- [ ] LT
- [ ] RT
- [x] Both

**REASON INADEQUATE:**
- [ ] Lack of vegetation
- [ ] Too narrow
- [x] Widespread invasive plants
- [ ] Recently planted
- [x] Other: Residential Lawns

**LAND USE:**
- [ ] Private
- [ ] Institutional
- [ ] Golf Course
- [ ] Park
- [ ] Other: Residential

**DOMINANT LAND COVER:**
- [ ] Paved
- [ ] Bare ground
- [ ] Turf/lawn
- [ ] Tall grass
- [ ] Shrub/scrub
- [ ] Trees
- [ ] Other: Residential

**INVASIVE PLANTS:**
- [ ] None
- [ ] Rare
- [ ] Partial coverage
- [x] Extensive coverage
- [ ] Unknown

**STREAM SHADE PROVIDED?**
- [ ] None
- [x] Partial
- [ ] Full

**WETLANDS PRESENT?**
- [ ] No
- [ ] Yes
- [ ] Unknown

**POTENTIAL RESTORATION CANDIDATE**
- [ ] Active reforestation
- [ ] Greenway design
- [ ] Natural regeneration
- [x] Invasives removal
- [ ] Other:

**RESTORABLE AREA**

**LENGTH (ft):** 1800

**WIDTH (ft):**

**REFORESTATION POTENTIAL:**

| Impacted area on public land where the riparian area does not appear to be used for any specific purpose; plenty of area available for planting | 5 |
| Impacted area on either public or private land that is presently used for a specific purpose; available area for planting adequate | 4 |
| Impacted area on private land where road, building encroachment or other feature significantly limits available area for planting | 3 |
| Other: Residential Lawns | 2 |

**POTENTIAL CONFLICTS WITH REFORESTATION**
- [x] Widespread invasive plants
- [ ] Potential contamination
- [ ] Lack of sun
- [ ] Poor/unsafe access to site
- [ ] Existing impervious cover
- [ ] Severe animal impacts (deer, beaver)
- [ ] Other:

**NOTES:**

Private property

Stretch of approximately 300 m / 1,000 ft. where there is 75% cover of invasive plants (J. barbey, Physalis alkekengi, etc.) or Residential Lawn. Left Bank is more impacted (invasive residential, some rip-rap).
Stream Crossing

<table>
<thead>
<tr>
<th>WATERSHED/SUBSHED:</th>
<th>W35</th>
<th>DATE: 2/10/07</th>
<th>ASSESSED BY: CMT/B6</th>
</tr>
</thead>
<tbody>
<tr>
<td>SURVEY REACH ID:</td>
<td>20</td>
<td>TIME: ___ AM/PM</td>
<td>PHOTO ID: (Camera-Pic #) P010 # 05</td>
</tr>
<tr>
<td>SITE ID: (Condition #)</td>
<td>SC-</td>
<td>LAT ___° ___' ___&quot;</td>
<td>LONG ___° ___' ___&quot;</td>
</tr>
<tr>
<td>TYPE:</td>
<td>□ Road Crossing</td>
<td>□ Railroad Crossing</td>
<td>□ Manmade Dam</td>
</tr>
</tbody>
</table>

FOR ROAD/RAILROAD CROSSINGS ONLY

| SHAPE: | □ Arch | □ Bottomless | □ Box | □ Elliptical | □ Circular | □ Other: |
| # BARRELS: | □ Single | □ Double | □ Triple | □ Other: |
| MATERIAL: | □ Concrete | □ Metal | □ Other: |
| ALIGNMENT: | □ Flow-aligned | □ Not flow-aligned | □ Do not know |
| DIMENSIONS: (if variable, sketch) | Barrel diameter: ___" (ft) | Height: ___" (ft) |
| CONDITION: (Evidence of...) | □ Cracking/chipping/corrosion | □ Downstream scour hole |
| Sediment deposition | □ Failing embankment |
| Other (describe): |
| CULVERT SLOPE: | □ Flat | □ Slight (2° - 5°) | □ Obvious (>5°) |
| Width: ___(ft) |
| Roadway elevation: ___(ft) |

POTENTIAL RESTORATION CANDIDATE

□ Fish barrier removal | □ Culvert repair/replacement | □ Upstream storage retrofit |
| □ Local stream repair | □ Other: |

IS SC ACTING AS GRADE CONTROL

□ No | □ Yes | □ Unknown |

EXTENT OF PHYSICAL BLOCKAGE:

□ Total | □ Partial | □ Temporary | □ Unknown | A structure such as a dam or road culvert on a 3rd order or greater stream blocking the upstream movement of anadromous fish; no fish passage device present.

If yes for fish barrier

CAUSE:

□ Drop too high | Water Drop: ___(in) |
□ Flow too shallow | Water Depth: ___(in) |
□ Other: |

BLOCKAGE SEVERITY: (circle #)

5 4 3 2 1

A total fish blockage on a tributary that would isolate a significant reach of stream, or partial blockage that may interfere with the migration of anadromous fish.

A temporary barrier such as a beaver dam or a blockage at the very head of a stream with very little viable fish habitat above it; natural barriers such as waterfalls.

NOTES/SKETCH:

Intersection with Mills In

REPORTED TO AUTHORITIES | □ Yes | □ No
**Severe Bank Erosion**

**Watershed/Subshed:** WBS

**Survey Reach:** 06

**Site ID:** (Condition #)

**Process:** [ ] Currently unknown
[ ] Downcutting
[ ] Widening
[ ] Headcutting
[ ] Aggrading
[ ] Sed. deposition

**Bank of Concern:** [ ] LT
[ ] RT
[ ] Both (looking downstream)

**Location:** [ ] Meander bend
[ ] Straight section
[ ] Steep slope/valley wall
[ ] Other:

**Dimensions:**

- **Length (if no GPS):** LT _____ ft and/or RT _____ ft
- **Bottom width:** _____ ft
- **Bank Hi:** LT _____ ft and/or RT _____ ft
- **Top width:** _____ ft
- **Bank Angle:** LT _____° and/or RT _____°
- **Wetted Width:** _____ ft

**Land Ownership:** [ ] Private
[ ] Public
[ ] Unknown

**Land Cover:** [ ] Forest
[ ] Field/Ag
[ ] Developed

**Potential Restoration Candidate:**

[ ] Grade control
[ ] Bank stabilization
[ ] Other:

**Threat to Property/Infrastructure:**

[ ] No
[ ] Yes (Describe):

**Existing Riparian Width:**

- **VARY**

- [ ] ≤25 ft
- [ ] 25 - 50 ft
- [ ] 50-75 ft
- [ ] 75-100 ft
- [ ] >100 ft

**Erosion Severity:**

- **Channelized:** [ ] 1

<table>
<thead>
<tr>
<th>Erosion Severity (circle #)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active downcutting; tall banks on both sides of the stream eroding at a fast rate; erosion contributing significant amount of sediment to stream; obvious threat to property or infrastructure.</td>
<td></td>
</tr>
<tr>
<td>Pot downcutting evident, active stream widening, banks actively eroding at a moderate rate; no threat to property or infrastructure.</td>
<td></td>
</tr>
<tr>
<td>Grade and width stable; isolated areas of bank failure/erosion; likely caused by a pipe outfall, local scour, impaired riparian vegetation or adjacent use.</td>
<td></td>
</tr>
</tbody>
</table>

**Access:**

- **Good access:** Open area in public ownership, sufficient room to stockpile materials, easy stream channel access for heavy equipment using existing roads or trails.
- **Fair access:** Forested or developed area adjacent to stream. Access requires tree removal or impact to landscaped areas. Stockpile areas small or distant from stream.
- **Difficult access:** Must cross wetland, steep slope or other sensitive areas to access stream. Minimal stockpile areas available and/or located a great distance from stream section. Specialized heavy equipment required.

**Notes/Cross Section Sketch:**

- Minor bank erosion on RB behind residential names  
  41°50'19" / 79°44'32"

- Minor bank erosion on RB + EB  
  41°50'27" / 79°44'27"

- Walking paths adjacent to some areas + residential lawns adjacent to others are private, so not likely rest. candidate.
### SURVEY REACH ID: 11
### WTRSHD/SUBSHD: WBS
### DATE: 11/30/09
### ASSESSED BY: CM/BS
### GPS ID:

#### START
- **TIME:** 12:15 AM
- **LMK:**
- **LAT:** 48° 54' 64" N
- **LONG:** 82° 44' 100" W
- **DESCRIPTION:** Old Gravel Road behind medical center

#### END
- **TIME:** 2:00 AM
- **LMK:**
- **LAT:** 48° 57' 18" N
- **LONG:** 82° 44' 87" W
- **DESCRIPTION:** Intersection with salmon

#### RAIN IN LAST 24 HOURS
- None

#### SURROUNDING LAND USE
- Industrial
- Commercial
- Golf course
- Park
- Crop
- Pasture
- Other:

#### PRESENT CONDITIONS
- Heavy rain
- Steady rain
- Intermittent
- Trace
- Clear
- Overcast
- Partly cloudy

#### AVERAGE CONDITIONS (check applicable)
- **BASE FLOW AS %**
  - 0-25%
  - 25-50%
  - 50-75%
  - 75-100%
- **CHANNEL WIDTH**
  - 25-50%
  - 75-100%

#### DOMINANT SUBSTRATE
- **Silts/clays (fine or slick)**
- **Cobble (2.5 - 10")**
- **Sand (gritty)**
- **Boulder (>10")**
- **Gravel (0.1-2.5")**
- **Bed rock**

#### WATER CLARITY
- **Clear**
- **Turbid (suspended matter)**
- **Stained (clear, naturally colored)**
- **Opaque (milky)**
- **Other (chemicals, dyes)**

#### AQUATIC PLANTS IN STREAM
- **Attached:**
  - None
  - Some
  - Lots
- **Floating:**
  - None
  - Some
  - Lots

#### WILDLIFE IN OR AROUND STREAM
- **Evidence of:**
  - Fish
  - Beaver
  - Deer
  - Snails
  - Other: Elk

#### STREAM SHADING
- **Mostly shaded (>75% coverage)**
- **Halfway (50%)**
- **Partially shaded (25%)**
- **Unshaded (< 25%)**

#### CHANNEL DYNAMICS
- **Downcutting**
- **Widening**
- **Headcutting**
- **Aggrading**
- **Sed. deposition**
- **Bed scour**
- **Bank failure**
- **Bank scour**
- **Slope failure**
- **Channelized**
- **Unknown**

#### CHANNEL DIMENSIONS (FACING DOWNSTREAM)
- **Height:**
  - LT bank
  - RT bank
- **Width:**
  - Bottom
  - Top

#### REACH ACCESSIBILITY
- **Good:** Open area in public ownership, sufficient room to access heavy equipment using existing roads or trails.
- **Falc:** Forested or developed area adjacent to stream. Access requires tree removal or impact to landscaping areas. Stockpile areas small or distant from stream.
- **Difficult:** Must cross wetland, steep slope, or sensitive areas to get to stream. Few areas to stockpile available and/or located a great distance from stream. Specialized heavy equipment required.
- **Unknown**

#### NOTES: (biggest problem you see in survey reach)
- Severe bank erosion, undercutting road

#### REACHED TO AUTHORITIES
- **Yes**
- **No**
<table>
<thead>
<tr>
<th>IN-STREAM HABITAT</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>(May modify criteria based on appropriate habitat regime)</td>
<td>Greater than 70% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobbles or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).</td>
<td>40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of new, but not yet prepared for colonization (may rate at high end of scale).</td>
<td>20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.</td>
<td>Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.</td>
</tr>
<tr>
<td></td>
<td>20 19 17 16</td>
<td>15 14 13 12 11</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1 0</td>
</tr>
</tbody>
</table>

| VEGETATIVE PROTECTION | | | |
|-----------------------| | | |
| (Score each bank, determine sides by facing downstream) | | | |
| More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understorey shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally. | 70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining. | 50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining. | Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height. |
| | | | |
| Left Bank | 10 | 9 | 8 | 5 | 4 | 3 | 2 | 1 | 0 |
| Right Bank | 10 | 9 | 8 | 5 | 4 | 3 | 2 | 1 | 0 |

| BANK EROSION | | | |
|--------------| | | |
| (Facing downstream) | | | |
| Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. | Grade and width stable; isolated areas of bank failure/erosion; likely caused by a pipe outfall, local scour, impaired riparian vegetation or adjacent use. | Past downcutting evident, active stream widening, banks actively eroding at a moderate rate; no threat to property or infrastructure. | Active downcutting; tail banks on both sides of the stream eroding at a fast rate; erosion contributing significant amount of sediment to stream; obvious threat to property or infrastructure. |
| | | | |
| Left Bank | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| Right Bank | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |

| FLOODPLAIN CONNECTION | | | |
|-----------------------| | | |
| High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched. | High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched. | High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched. | High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched. |
| | | | |
| 20 19 18 17 | 15 14 13 12 11 | 10 9 8 7 6 | 5 4 3 2 1 0 |

| OVERALL BUFFER AND FLOODPLAIN CONDITION | | | |
|----------------------------------------| | | |
| | Optimal | Suboptimal | Marginal | Poor |
| VEGETATED BUFFER WIDTH | | | |
| Width of buffer zone >50 feet; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, crops) have not impacted zone. | Width of buffer zone 25-50 feet; human activities have impacted zone only minimally. | Width of buffer zone 10-25 feet; human activities have impacted zone a great deal. | Width of buffer zone <10 feet; little or no riparian vegetation due to human activities. |
| | | | |
| Left Bank | 10 | 9 | 8 | 5 | 4 | 3 | 2 | 1 | 0 |
| Right Bank | 10 | 9 | 8 | 5 | 4 | 3 | 2 | 1 | 0 |

| FLOODPLAIN VEGETATION | | | |
|----------------------| | | |
| Predominant floodplain vegetation type is maturing forest | Predominant floodplain vegetation type is young forest | Predominant floodplain vegetation type is shrub or old field | Predominant floodplain vegetation type is turf or crop land |
| | | | |
| 20 19 18 17 | 15 14 13 12 11 | 10 9 8 7 6 | 5 4 3 2 1 0 |

| FLOODPLAIN HABITAT | | | |
|--------------------| | | |
| Even mix of wetland and non-wetland habitats, evidence of standing/ponded water | Even mix of wetland and non-wetland habitats, no evidence of standing/ponded water | Either all wetland or all non-wetland habitat, evidence of standing/ponded water | Either all wetland or all non-wetland habitat, no evidence of standing/ponded water |
| | | | |
| 20 19 18 17 | 15 14 13 12 11 | 10 9 8 7 6 | 5 4 3 2 1 0 |

| FLOODPLAIN ENCROACHMENT | | | |
|------------------------| | | |
| No evidence of floodplain encroachment in the form of fill material, land development, or manmade structures. | Minor floodplain encroachment in the form of fill material, land development, or manmade structures, but not effecting floodplain function | Moderate floodplain encroachment in the form of filling, land development, or manmade structures, some effect on floodplain function | Significant floodplain encroachment (i.e., fill material, land development, or man-made structures). Significant effect on floodplain function |
| | | | |
| 20 19 18 17 | 15 14 13 12 11 | 10 9 8 7 6 | 5 4 3 2 1 0 |

Sub Total In-stream: 60 / 80 + Buffer/Floodplain: 62 / 80 = Total Survey Reach 62 / 160
<table>
<thead>
<tr>
<th><strong>WATERSHED/SUBSHED:</strong></th>
<th>WBS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SURVEY REACH ID:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>TIME:</strong> AM/PM</td>
<td></td>
</tr>
<tr>
<td><strong>PHOTO ID:</strong> (Camera-Pic #)</td>
<td></td>
</tr>
<tr>
<td><strong>SITE ID (Condition-#):</strong></td>
<td>OT</td>
</tr>
<tr>
<td><strong>BANK:</strong></td>
<td>(Koth)</td>
</tr>
<tr>
<td><strong>FLOW:</strong></td>
<td>None</td>
</tr>
<tr>
<td><strong>CONDITION:</strong></td>
<td>None</td>
</tr>
<tr>
<td><strong>ODOR:</strong></td>
<td>No</td>
</tr>
<tr>
<td><strong>DEPOSITS/STAINS:</strong></td>
<td>None</td>
</tr>
<tr>
<td><strong>VEGIE DENSITY:</strong></td>
<td>None</td>
</tr>
<tr>
<td><strong>PIPE BENTHIC GROWTH:</strong></td>
<td>None</td>
</tr>
<tr>
<td><strong>For FLOWING ONLY</strong></td>
<td></td>
</tr>
<tr>
<td><strong>COLOR:</strong></td>
<td>Clear</td>
</tr>
<tr>
<td><strong>TURBIDITY:</strong></td>
<td>None</td>
</tr>
<tr>
<td><strong>FLOATABLES:</strong></td>
<td>None</td>
</tr>
<tr>
<td><strong>Other CONCERNS:</strong></td>
<td>Excess Trash (paper/plastic bags)</td>
</tr>
<tr>
<td><strong>OTHER</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Potential Restoration Candidate</strong></td>
<td>no</td>
</tr>
<tr>
<td><strong>For daylighting:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Length of vegetative cover from outfall:</strong></td>
<td>ft</td>
</tr>
<tr>
<td><strong>Type of existing vegetation:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Slope:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>For stormwater:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Land Use description:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>OUTFALL SEVERITY:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>(circle #)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>SKETCH/NOTES:</strong></td>
<td>See Reverse</td>
</tr>
</tbody>
</table>

**REPORTED TO AUTHORITIES:** [ ] YES [ ] NO
- Stormwater outfall pipe on LB from medical building parking lot. [See photo 149300-11] Concrete, round, 136° diam. 34°46'53"/73°44'01" Moderate flow, no unusual observations. Rip-rap has been placed under outfall.

- Stormwater pipe from parking lot on LB 34°46'53"/73°44'06"

- Outfall pipe on EB next to parking lot + building (bunkers?) 34°49'03"/73°44'15" Elliptical, concrete, no unusual observations.

- Teritary or open channel runoff input on LB 34°49'05"/73°44'15" - Water is clear but odor is sewage.

- Swale or open channel input adjacent to golf course on EB 34°49'15"/73°44'17" Sharp bend in block here + erosion to LB.
**Watershed/Subshed:** WBS  
**Survey Reach ID:** 11  
**Date:** 11/02/09  
**Assessed By:** CVQ/SD

**Site ID:** (Condition #) SC-4  
**Lat:** 41° 48' 54"  
**Long:** 72° 44' 00"  
**LMK:**  
**GPS (Unit ID):**

**Type:**  
- [ ] Road Crossing  
- [ ] Railroad Crossing  
- [ ] Manmade Dam  
- [ ] Beaver Dam  
- [ ] Geological Formation  
- [x] Other: Old Gristmill Site

**Shape:**  
- [ ] Arch  
- [ ] Box  
- [x] Bottomless  
- [ ] Circular  
- [ ] Elliptical  
- [ ] Other: 

**# Barrels:**  
- [ ] Single
- [ ] Double  
- [ ] Triple  
- [ ] Other:

**Material:**  
- [ ] Concrete  
- [ ] Metal  
- [ ] Other:

**Alignment:**  
- [ ] Flow-aligned  
- [ ] Not flow-aligned  
- [ ] Do not know

**Dimensions:** (if variable, sketch)  
- Barrel diameter: ______ (ft)  
- Height: ______ (ft)

- Culvert length: ______ (ft)  
- Width: ______ (ft)

- Roadway elevation: ______ (ft)

**Potential Restoration Candidate:**  
- [x] Fish barrier removal  
- [ ] Culvert repair/replacement  
- [ ] Upstream storage retrofit  
- [ ] No  
- [ ] Local stream repair  
- [ ] Other:

**Is SC acting as Grade Control:**  
- [ ] No  
- [x] Yes  
- [ ] Unknown

**Extent of Physical Blockage:**  
- Total  
- Partial  
- Temporary  
- Unknown

**Cause:**  
- [x] Drop too high  
- Water Drop: ______ (in)
- [x] Flow too shallow  
- Water Depth: ______ (in)
- Other:

**Blockage Severity:** (circle #)  
- 5  
- 4  
- 3  
- 2  
- 1

A structure such as a dam or road culvert on a 3rd order or greater stream blocking the upstream movement of anadromous fish; no fish passage device present

A total fish blockage on a tributary that would isolate a significant reach of stream, or partial blockage that may interfere with the migration of anadromous fish.

A temporary barrier such as a beaver dam or a blockage at the very head of a stream with very little viable fish habitat above it; natural barriers such as waterfalls.

**Notes/Sketch:**
covered footbridge over "Y" shaped in brook - looks like part of an oxbow with the remnants of an old gristmill (?)
**Stream Crossing**

**Watershed/Subshed:** [WS]  
**Date:** 1/2/09  
**Assessed By:** OWI + E-

**Survey Reach ID:** [1]  
**Time:** AM/PM  
**Photo ID:** (Camera-Pic #) [147300 # 17]  
**Site ID:** (Condition #) [SC-]  
**Lat:** 41° 48' 59"  
**Long:** 72° 44' 16"  
**LMK:**  
**GPS (Unit ID):**

**Type:** [☑] Road Crossing [☐] Railroad Crossing [☐] Manmade Dam [☐] Beaver Dam [☐] Geological Formation [☐] Other.

**Shape:**  
[☐] Arch  
[☐] Box  
[☒] Elliptical  
[☐] Circular  
[☐] Other:

**# Barrels:**  
[☐] Single  
[☐] Double  
[☒] Triple  
[☐] Other:

**Material:**  
[☐] Concrete  
[☐] Steel  
[☐] Rubber  
[☐] Other:

**Alignment:**  
[☑] Flow-aligned  
[☐] Not flow-aligned  
[☐] Do not know

**Dimensions:** (if variable, sketch)  
Barrel diameter: [1](ft)  
Height: [10](ft)

**Culvert length:** [____](ft)  
**Width:** [____](ft)

**Potential Restoration Candidate**  
[☐] Fish barrier removal  
[☐] Culvert repair/replacement  
[☐] Upstream storage retrofit  
[☑] Local stream repair  
[☐] Other:

**Is SC acting as grade control**  
[☐] No  
[☐] Yes  
[☐] Unknown

**Extent of Physical Blockage:**  
[☐] Total  
[☐] Partial  
[☐] Temporary  
[☐] Unknown

**If yes for fish barrier**  
**Cause:**  
[☐] Drop too high  
[☐] Water Depth: [____] (in)

**Blockage Severity:** (circle #)  
A structure such as a dam or road culvert on a 3rd order or greater stream blocking the upstream movement of anadromous fish; no fish passage device present.

**Notes/Sketch:** Flume is somewhat bottlenecked, riprap along both banks on upstream side to culvert.
**Stream Crossing**

**Watershed/Subshed:** WBS

**Survey Reach ID:** 11

**Site ID:** (Condition #) SC-C

**Lat:** 41° 47' 08" **Long:** 72° 44' 20"

**Type:** Road Crossing

**Shape:**
- Arch
- Box
- Elliptical
- Other:

**Barrels:**
- Single
- Double
- Triple
- Other:

**Material:**
- Concrete
- Metal
- Other:

**Alignment:**
- Flow-aligned
- Not flow-aligned
- Do not know

**Dimensions:**
- Barrel diameter: 
- Height: 
- Culvert length: 
- Width: 
- Roadway elevation:

**Potential Restoration Candidate:**
- Fish barrier removal
- Culvert repair/replacement
- Upstream storage retrofit
- Local stream repair
- Other:

**Is SC Acting as Grade Control:**
- No
- Yes
- Unknown

**Extent of Physical Blockage:**
- Total
- Partial
- Temporary
- Unknown

**Cause:**
- Drop too high
- Flow too shallow

**Blockage Severity: (circle #)**

<table>
<thead>
<tr>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
</table>

**Notes/Sketch:**

**Date:** 1/30/07 **Assessed by:** CM/66
Watershed/Subshed: WB5  
Survey Reach ID: 11  
Date: 11/30/19  
Assessed By: Cun + B6

Site ID: (Condition #) TR-001  
Photo ID: (Camera-Pic #) 149300  
POS: (Unit ID)  
Lat:  
Long:  

<table>
<thead>
<tr>
<th>Type:</th>
<th>Material:</th>
<th>Source:</th>
<th>Location:</th>
<th>Land Ownership:</th>
<th>Amount (# Pickup truck loads):</th>
</tr>
</thead>
<tbody>
<tr>
<td>☑ Industrial</td>
<td>☑ Plastic</td>
<td>☑ Unknown</td>
<td>Stream</td>
<td>Public</td>
<td>(¥ Pickup truck loads):</td>
</tr>
<tr>
<td>☑ Commercial</td>
<td>☑ Paper</td>
<td>☑ Flooding</td>
<td>Riparian Area</td>
<td>Private</td>
<td></td>
</tr>
<tr>
<td>☑ Residential</td>
<td>☑ Tires</td>
<td>☑ Illegal dump</td>
<td>Lt bank</td>
<td>Unknown</td>
<td></td>
</tr>
<tr>
<td>☑ Appliances</td>
<td>☑ Yard Waste</td>
<td>☑ Local outfall</td>
<td>Rt bank</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Potential Restoration Candidate: ☑ Stream cleanup ☑ Stream adoption segment ☑ Removal/prevention of dumping

If yes for trash or debris removal:

<table>
<thead>
<tr>
<th>Equipment Needed:</th>
<th>Dumpster Within 100 ft:</th>
</tr>
</thead>
<tbody>
<tr>
<td>☑ Heavy equipment</td>
<td>☑ Yes ☑ No ☑ Unknown</td>
</tr>
<tr>
<td>☑ Trash bags</td>
<td>☑ Unknown</td>
</tr>
</tbody>
</table>

Who Can Do It:  
☑ Volunteers  ☑ Local Gov  ☑ Hazmat Team  ☑ Other

Clean-up Potential: (Circle #)

| 5 | 4 | 3 | 2 | 1 |

Notes:
- Behind the medical center, there is trash/dumping, including a wine case, AC unit, golf balls, plastic bottles, etc.
- Behind parking lot (church building?), there is yard waste dumping 3/14/16.
- Lots of golf balls where river flows adjacent to golf course.

Reported to Authorities: ☑ Yes ☑ No
**IMPACTED BANK:**
- LT
- RT
- Both

**REASON INADEQUATE:**
- Lack of vegetation
- Too narrow
- Widespread invasive plants
- Recently planted
- Other:

**LAND USE:**
- Private
- Institutional
- Golf Course
- Park
- Other Public

**DOMINANT:**
- Paved
- Bare ground
- Turf/lawn
- Tall grass
- Shrub/scrub
- Trees
- Other

**LAND COVER:**
- LT Bank
- RT Bank

**INVASIVE PLANTS:**
- None
- Rare
- Partial coverage
- Extensive coverage
- Unknown

**STREAM SHADE PROVIDED?**
- None
- Partial
- Full

**WETLANDS PRESENT?**
- No
- Yes

**RESTORABLE AREA**

<table>
<thead>
<tr>
<th>LT Bank</th>
<th>RT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length (ft):</td>
<td>See below</td>
</tr>
</tbody>
</table>

**REFORESTATION POTENTIAL:**

- Impacted area on public land where the riparian area does not appear to be used for any specific purpose; plenty of area available for planting
- Impacted area on either public or private land that is presently used for a specific purpose; available area for planting adequate
- Impacted area on private land where road, building encroachment or other feature significantly limits available area for planting

**POTENTIAL CONFLICTS WITH REFORESTATION**

- Widespread invasive plants
- Potential contamination
- Lack of sunlight
- Poor/unsafe access to site
- Existing impervious cover
- Severe animal impacts (deer, beaver)

**NOTES:**
- Left Bank (LB) 41°48'53"/70°44'06" Rip-rap + gabions behind medical center.
- LB behind residential home = lawn + driveway 41°48'54"/70°44'10"
- LB here has 10' wide forested buffer (twins) behind condo units + residential lawns on other side to forested strip
- LB has rip-rap + severe erosion 41°48'56"/70°44'15"
- LB here has 10' strip of forested buffer (twins) + lawns on other side
- LB here has concrete slabs in channel
- Rip-rap along both banks for ~35' length 41°48'59"/70°44'16"
- Leaf dumping on LB 41°49'03"/70°44'15"
- Parking lot here
- LB has twin forested buffer + lawns opposite that 10' wide for (buffer) 41°49'03"/70°44'15"
- LB impacts 41°49'05"/70°44'16" where lawn comes up to edge of block + there is no buffer for ~35' length.
- Both banks adjacent to golf course fairways but LB worse, particularly...
Severe Bank Erosion

**Watershed/Subshed:** WBS

**Survey Reach:** 1

**Time:** AM/PM

**Photo ID (Camera-Pic #):** 149300 / # 16

**Site ID:** (Condition #)

**Start Lat:** 41° 04' 56" Long: 72° 44' 15"

**End Lat:** ° ' " Long ° ' "

**Lmk:**

**Gps:** (Unit Id)

**Process:**
- [ ] Currently unknown
- [ ] Downcutting
- [ ] Widening
- [ ] Headcutting
- [ ] Aggrading
- [ ] Sed. deposition

**Bank of Concern:**
- [ ] Lt
- [x] Rt
- [ ] Both (looking downstream)

**Location:**
- [x] Meander bend
- [ ] Straight section
- [ ] Steep slope/valley wall
- [ ] Other

**Dimensions:**
- **Length (if no GPS)** LT_____ ft and/or RT_____ ft
- **Bottom width_____ ft**
- **Bank Ht** LT_____ ft and/or RT_____ ft
- **Top width_____ ft**
- **Bank Angle** LT_____ ° and/or RT_____ °
- **Wetted Width_____ ft**

**Land Ownership:**
- [ ] Private
- [ ] Public
- [ ] Unknown

**Land Cover:**
- [ ] Forest
- [ ] Field/Ag
- [ ] Developed

**Potential Restoration Candidate:**
- [ ] Grade control
- [x] Bank stabilization
- [ ] Other:

**Threat To Property/Infrastructure:**
- [ ] No
- [x] Yes (Describe): Bloomfield Ave.

**Existing Riparian Width:**
- [ ] 0-25 ft
- [ ] 25 - 50 ft
- [ ] 50-75ft
- [ ] 75-100ft
- [ ] >100ft

**Erosion Severity (Circle #)**
- [ ] Channelized
  - Active downcutting; tall banks on both sides of the stream eroding at a fast rate; erosion contributing a significant amount of sediment to stream; obvious threat to property or infrastructure.

- [ ] Pat downcutting evident, active stream widening, banks actively eroding at a moderate rate; no threat to property or infrastructure.

- [ ] Grade and width stable; isolated areas of bank failure/erosion; likely caused by a pipe collapse, local scour, impaired riparian vegetation or adjacent use.

**Access:**
- [ ] Good access: Open area in public ownership, sufficient room to stockpile materials, easy stream channel access for heavy equipment using existing roads or trails.

- [ ] Fair access: Forested or developed area adjacent to stream. Access requires tree removal or impact to landscaped areas. Stockpile areas small or distant from stream.

- [ ] Difficult access. Must cross wetland, steep slope or other sensitive areas to access stream. Minimal stockpile areas available and/or located a great distance from stream section. Specialized heavy equipment required.

**Notes/Cross Section Sketch:**

Adjacent to Bloomfield Avenue.

**Reported to Authorities:**
- [ ] Yes
- [ ] No
RAIN IN LAST 24 HOURS: □ Heavy rain □ Steady rain □ None □ Intermittent □ Trace
SURROUNDING LAND USE: □ Industrial □ Commercial □ Urban/Residential □ Suburban/Res □ Forested □ Institutional □ Golf course □ Park □ Crop □ Pasture □ Other:

AVERAGE CONDITIONS (check applicable)
BASE FLOW AS %: □ 0-25% □ 50%-75% □ 75-100%
CHANNEL WIDTH: □ 25-50% □ 75-100%

DOMINANT SUBSTRATE:
□ Silt/clay (fine or slick) □ Cobble (2.5-10")
□ Sand (gritty) □ Boulder (>10")
□ Gravel (0.1-2.5") □ Bed rock

WATER CLARITY:
□ Clear □ Turbid (suspended matter)
□ Stained (clear, naturally colored) □ Opaque (milky)
□ Other (chemicals, dyes)

AQUATIC PLANTS IN STREAM:
Attached: □ none □ some □ lots
Floating: □ none □ some □ lots

WILDLIFE IN OR AROUND STREAM:
□ Evidence of □ Fish □ Beaver □ Deer □ Snails □ Other:

STREAM SHADING (water surface):
□ Mostly shaded (>75% coverage)
□ Halfway (50%)
□ Partially shaded (25%)
□ Unshaded (<25%)

CHANNEL DYNAMICS:
□ Downcutting □ Widening □ Headcutting □ Aggrading □ Sed. deposition
□ Bed scour □ Bank failure □ Bank scour □ Slope failure □ Channelized

CHANNEL DIMENSIONS:
□ Facing □ Downstream
□ Width: □ Top bank □ Bottom
□ Height: □ Left bank □ Right bank

REACH ACCESSIBILITY:
□ Good: Open area in public ownership, sufficient room to place equipment useful for surveying
□ Fair: Restricted area adjacent to stream, access requires careful placement of equipment
□ Difficult: Must cross wetland, steep slope, or sensitive areas to get to stream. Specialized equipment required.

REACH SKETCH AND SITE IMPACT TRACKING:
Simple planar sketch of survey reach. Track locations and IDs of features that may have an impact within the survey reach (OT, ER, BR, SC, UT, TR, MI) as well as any additional features deemed appropriate. Indicate direction of flow.

NOTES: (biggest problem you see in survey reach)

Very long culvert at beginning of left bank
Includes trees, debris, stone, old fence lines, broken pipe, etc.

Dump area is at Woodland Ave
Includes plastic bottles, etc.

REPORTED TO AUTHORITIES: □ Yes □ No
## Overall Stream Condition

<table>
<thead>
<tr>
<th>In-stream Habitat</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greater than 70% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).</td>
<td>40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).</td>
<td>20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.</td>
<td>Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.</td>
<td></td>
</tr>
<tr>
<td><strong>20</strong></td>
<td><strong>19</strong></td>
<td><strong>18</strong></td>
<td><strong>17</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

### Vegetative Protection

(ace each bank, determine sides by facing downstream)

<table>
<thead>
<tr>
<th>Left Bank</th>
<th>Right Bank</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>9</td>
</tr>
</tbody>
</table>

### Bank Erosion (facing downstream)

<table>
<thead>
<tr>
<th>Left Bank</th>
<th>Right Bank</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>9</td>
</tr>
</tbody>
</table>

### Floodplain Connection

High flows (>50% bankfull) able to enter floodplain. Stream not deeply entrenched.

<table>
<thead>
<tr>
<th>Left Bank</th>
<th>Right Bank</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>6</td>
</tr>
</tbody>
</table>

### Overall Buffer and Floodplain Condition

<table>
<thead>
<tr>
<th>Vegetated Buffer Width</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width of buffer zone &gt;50 feet; human activities (i.e., parking lots, roadsides, clear-cuts, lawns, crops) have not impacted zone.</td>
<td>Width of buffer zone 25-50 feet; human activities have impacted zone only minimally.</td>
<td>Width of buffer zone 10-25 feet; human activities have impacted zone a great deal.</td>
<td>Width of buffer zone &lt;10 feet; litter or no riparian vegetation due to human activities.</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>19</td>
<td>18</td>
<td>17</td>
<td></td>
</tr>
</tbody>
</table>

### Floodplain Vegetation

<table>
<thead>
<tr>
<th>Predominant floodplain vegetation type is mature forest</th>
<th>Predominant floodplain vegetation type is young forest</th>
<th>Predominant floodplain vegetation type is shrub or old field</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>9</td>
<td>8</td>
</tr>
</tbody>
</table>

### Floodplain Habitat

Even mix of wetland and non-wetland habitats, evidence of standing/ponded water.

<table>
<thead>
<tr>
<th>Either all wetland or all non-wetland habitat, evidence of standing/ponded water</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
</tr>
</tbody>
</table>

### Floodplain Encroachment

No evidence of floodplain encroachment in the form of fill material, land development, or manmade structures.

<table>
<thead>
<tr>
<th>Moderate floodplain encroachment in the form of filling, land development, or manmade structures, some effect on floodplain function</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
</tr>
</tbody>
</table>

**Sub Total In-stream:** 73/80  +  **Buffer/Floodplain:** 65/80  =  **Total Survey Reach:** 138/160
Watershed/Subshed: WBN
Survey Reach ID: 4
Site ID: SC-01
Lat 41° 05' 42" Long 82° 43' 51"
Mucko Road
Type: Road Crossing

Shape: Elliptical

Barrels: Single

Material: Concrete

Alignment: Flow-aligned

Dimensions: Barrel diameter: 24' (ft)

Condition: Cracking/chipping/corrosion

Condition: Downstream scour hole

Culvert slope: Slight (2° - 5°)

Potential Restoration Candidate: Fish barrier removal

Potential Restoration Candidate: Culvert repair/replacement

Potential Restoration Candidate: Upstream storage retrofit

Is SC acting as grade control: No

Extent of Physical Blockage: Total

Cause:

Water depth:

Blockage Severity: 1

Notes/Sketch: We spoke to a landowner who is concerned about a proposed commercial development on Mucko Road. This portion of the reach is currently forested (mature). Ownership is unclear. There is an abandoned looking boy scout camp at least one residential home.
Stream Crossing

Watershed/Subshed: WRN

Survey Reach ID: 4

Time: ___ AM/PM

Photo ID: (Camera-Pic #) # None

Site ID: (Condition #) SC-6

Lat 41° 51' 57" Long 72° 43' 37"

LMK

GPS (Unit ID)

Type:
- [ ] Road Crossing
- [ ] Railroad Crossing
- [ ] Mannmade Dam
- [ ] Beaver Dam
- [ ] Geological Formation
- [ ] Others

For Road/Railroad Crossings Only

<table>
<thead>
<tr>
<th>Shape:</th>
<th># Barrels:</th>
<th>Material:</th>
<th>Alignment:</th>
<th>Dimensions:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arch</td>
<td>Single</td>
<td>Concrete</td>
<td>Flow-aligned</td>
<td>Barrel diameter: ___ (ft)</td>
</tr>
<tr>
<td>Box</td>
<td>Double</td>
<td>Metal</td>
<td>Not flow-aligned</td>
<td>Height: ___ (ft)</td>
</tr>
<tr>
<td>Circular</td>
<td>Triple</td>
<td>Other</td>
<td>Do not know</td>
<td>Cuvert length: 70' (ft)</td>
</tr>
<tr>
<td>Other</td>
<td>Other</td>
<td>Other</td>
<td></td>
<td>Width: ___ (ft)</td>
</tr>
</tbody>
</table>

Condition: (Evidence of...)
- [ ] Cracking/chipping/corrosion
- [ ] Sediment deposition
- [ ] Other (describe):

Culvert Slope:
- [ ] Flat
- [ ] Slight (2° - 5°)
- [ ] Obvious (>5°)

Roadway elevation: ___ (ft)

Potential Restoration Candidate
- [ ] Fish barrier removal
- [ ] Culvert repair/replacement
- [ ] Upstream storage retrofit
- [ ] No
- [ ] Local stream repair
- [ ] Other

Is SC acting as Grade Control
- [ ] No
- [ ] Yes
- [ ] Unknown

If yes for fish barrier:

Extent of Physical Blockage:
- [ ] Total
- [ ] Partial
- [ ] Temporary
- [ ] Unknown

Cause:
- [ ] Drop too high
- [ ] Flow too shallow

Water Drop: ___ (in)

Water Depth: ___ (in)

Blockage Severity: (circle #)

5 4 3 2 1

Notes/Sketch:

To foot long culvert under driveway.

Reported to Authorities
- [ ] Yes
- [ ] No
**Watershed/Subshed:** WSN  
**Survey Reach ID:** 4  
**Site ID:** (Condition #) SC - C  
**Lat:** 41° 52' 04''  
**Long:** 72° 43' 33''  
**LMK:**  
**GPS (Unit ID):**

### Type: [X] Road Crossing  
[ ] Railroad Crossing  
[ ] Manmade Dam  
[ ] Beaver Dam  
[ ] Geological Formation  
[ ] Other:

#### For Road/Railroad Crossings Only

**Shape:**
- [X] Arch  
- [ ] Box  
- [ ] Elliptical  
- [X] Circular  
- [ ] Other:

**Condition:** (Evidence of...)
- [ ] Cracking/chipping/corrosion  
- [ ] Sediment deposition  
- [ ] Other (describe):

**Barrels:**
- [X] Single  
- [ ] Double  
- [ ] Triple  
- [ ] Other:

**Material:**
- [ ] Concrete  
- [ ] Metal  
- [ ] Other:

**Alignment:**
- [ ] Flow-aligned  
- [X] Not flow-aligned  
- [X] Do not know

**Dimensions:** (if variable, sketch)
- Barrel diameter: ______ (ft)
- Height: ______ (ft)
- Culvert length: ______ (ft)
- Width: ______ (ft)
- Roadway elevation: ______ (ft)

### Potential Restoration Candidate
- [ ] Fish barrier removal  
- [X] Culvert repair/replacement  
- [X] Upstream storage retrofit  
- [ ] No  
- [ ] Local stream repair  
- [ ] Other:

### Is SC acting as grade control
- [ ] No  
- [ ] Yes  
- [ ] Unknown

#### Extent of Physical Blockage
- [ ] Total  
- [ ] Partial  
- [ ] Temporary  
- [ ] Unknown

**Cause:**
- [ ] Drop too high Water Drop: ______ (in)
- [ ] Flow too shallow Water Depth: ______ (in)
- [ ] Other:

### Blockage Severity

**A structure such as a dam or road culvert on a 3rd order or greater stream blocking the upstream movement of anadromous fish; no fish passage device present.**

**A total fish blockage on a tributary that would isolate a significant reach of stream, or partial blockage that may interfere with the migration of anadromous fish.**

**A temporary barrier such as a beaver dam or a blockage at the very head of a stream with very little viable fish habitat above it; natural barriers such as waterfalls.**

### Notes/Sketch:
- Water is ponded upstream of culvert too small?
- Stream/water pipe on [X] here as well
- Rip-Rap + pavement on both banks w/ 10' downstream of crossing + mean headwall on upstream side.

Reported to authorities: [ ] Yes  
[ ] No
**Watershed/Subwatershed:** WBN  
**Survey Reach ID:** 01  
**Date:** 8/18/09  
**Assessed By:** RG/DM

**Site ID:**  
**Type:** Combination of options (one selected)  
**Material:** Combination of options (one selected)  
**Source:** Combination of options (one selected)  
**Location:** Combination of options (one selected)  
**Land Ownership:** Combination of options (one selected)  
**Amount:** (# Pickup truck loads)

---

**Potential Restoration Candidate**  
- Stream cleanup  
- Stream adoption segment  
- Removal/prevention of dumping  
- No

**Equipment Needed:**  
- Heavy equipment  
- Trash bags  
- Unknown

**Who Can Do It:**  
- Volunteers  
- Local Gov  
- Hazmat Team  
- Other

**Clean-up Potential:**

<table>
<thead>
<tr>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

**Notes:**  
- Dumpsite on EB 41°51'48"/72°43'43" including tires, old-era (entire), stove, old foundation, broken pipes, illegal-looking dump (Photo Pic 0300-50)  
- Old tank in channel (oil tank?) 41°51'56"/72°43'39"  
- Trash infield including plastic milk bottles, bleach bottles + gasoline 41°51'59"/72°43'37"

**Reported to Authorities:** Yes/No NO
### Reach Level Assessment

<table>
<thead>
<tr>
<th>Survey Reach ID:</th>
<th>2</th>
<th>Wtrsh/Subshd:</th>
<th>BHR</th>
<th>Date:</th>
<th>12/8/09</th>
<th>Assessed By:</th>
<th></th>
</tr>
</thead>
</table>

**Start Time:** 9:00 AM/PM  | **End Time:** 1:00 AM/PM  | **LMK:**  |

**Lat:** 41° 51' 09"  | **Long:** 120° 42' 38"  | **Lat:** 41° 51' 23"  | **Long:** 120° 42' 38"  |

**Description:** Culvert + W. Dudley Town Rd.  | **Description:** Cattle pond  |

**Rain in Last 24 Hours:** None  | **Present Conditions:** Intermittent  |

**Surrounding Land Use:** Industrial  | **Urban/Residential:**  |

---

### Average Conditions (Check applicable)

- **Base Flow As %:**
  - 0-25%
  - 25-50%
  - 50-75%
  - 75-100%

- **Channel Width:**
  - 25-50%
  - 75-100%

- **Dominant Substrate:**
  - Silts/clays (fine or slick)
  - Gravels (gritty)
  - Bedrock
  - Gravel (0.1-2.5")
  - Boulder (>10")
  - Cobble (2.5 -10")

- **Water Clarity:**
  - Clear
  - Suspended Matter (Turbid)
  - Stained (clear, naturally colored)
  - Opaque (milky)
  - Other (chemicals, dyes)

- **Aquatic Plants in Stream:**
  - Attached: None
  - Floating: Some
  - Lots

- **Wildlife in or Around Stream:**
  - Evidence of:
    - Fish
    - Beaver
    - Deer
    - Snails
    - Other (Describe)

- **Stream Shading (Water Surface):**
  - Mostly shaded (>75% coverage)
  - Halfway (>50%)
  - Partially shaded (>25%)
  - Unshaded (<25%)

- **Channel Dynamics:**
  - Downcutting
  - Widening
  - Headcutting
  - Aggrading
  - Sed. deposition
  - Bed scour
  - Bank failure
  - Bank scour
  - Slope failure
  - Channelized

- **Channel Dimensions (Facing Downstream):**
  - Height: LT bank
  - RT bank
  - Width: Bottom
  - Top

### Reach Sketch and Site Impact Tracking

Simple planar sketch of survey reach. Track locations and IDs for all site impacts within the survey reach (OT, ER, IR, SC, UT, TR, MI) as well as any additional features deemed appropriate. Indicate direction of flow.

---

### Notes:

( biggest problem you see in survey reach)

- Dumping, erosion

---

**Reported to Authorities:**

- Yes  
- No
<table>
<thead>
<tr>
<th>Overall Stream Condition</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-stream Habitat</td>
<td>Greater than 70% of substrate favorable for epiflora colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat; and stage to allow full colonization potential (i.e., log jams that are not new fell and not transient).</td>
<td>40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrates in the form of twigs, but not yet prepared for colonization (may rate at high end of scale).</td>
<td>20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.</td>
<td>Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.</td>
</tr>
<tr>
<td>Vegetative Protection</td>
<td>More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.</td>
<td>70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.</td>
<td>50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.</td>
<td>Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.</td>
</tr>
<tr>
<td>Left Bank</td>
<td>10 9</td>
<td>8 6</td>
<td>5 4 3</td>
<td>2 1 0</td>
</tr>
<tr>
<td>Right Bank</td>
<td>10 9</td>
<td>8 6</td>
<td>5 4 3</td>
<td>2 1 0</td>
</tr>
<tr>
<td>Bank Erosion</td>
<td>Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems; &lt;5% of bank affected.</td>
<td>Grade and width stable; isolated areas of bank failure/erosion; likely caused by a pipe outfall, local scour, impaired riparian vegetation or adjacent use.</td>
<td>Past downcutting evident, active stream widening, banks actively eroding at a moderate rate; no threat to property or infrastructure.</td>
<td>Active downcutting; tall banks on both sides of the stream eroding at a fast rate; erosion contributing significant amount of sediment to stream; obvious threat to property or infrastructure.</td>
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<td>8 6</td>
<td>5 4 3</td>
<td>2 1 0</td>
</tr>
<tr>
<td>Floodplain Connection</td>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deep lower entrenched.</td>
<td>High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched.</td>
<td>High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched.</td>
</tr>
<tr>
<td>Floodplain Vegetation</td>
<td>Predominant floodplain vegetation type is mature forest.</td>
<td>Predominant floodplain vegetation type is young forest.</td>
<td>Predominant floodplain vegetation type is shrub or old field.</td>
<td>Predominant floodplain vegetation type is turf or crop land.</td>
</tr>
<tr>
<td>Floodplain Habitat</td>
<td>Width of buffer zone &gt;50 feet; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, crops) have not impacted zone.</td>
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<td>Poor</td>
</tr>
<tr>
<td>Vegetated Buffer Width</td>
<td>Width of buffer zone &gt;50 feet; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, crops) have not impacted zone.</td>
<td>Width of buffer zone 25-50 feet; human activities have impacted zone only minimally.</td>
<td>Width of buffer zone 10-25 feet; human activities have impacted zone a great deal.</td>
<td>Width of buffer zone &lt;10 feet; little or no riparian vegetation due to human activities.</td>
</tr>
<tr>
<td>Left Bank</td>
<td>10 9</td>
<td>8 6</td>
<td>5 4 3</td>
<td>2 1 0</td>
</tr>
<tr>
<td>Right Bank</td>
<td>10 9</td>
<td>8 6</td>
<td>5 4 3</td>
<td>2 1 0</td>
</tr>
<tr>
<td>Floodplain Vegetation</td>
<td>Predominant floodplain vegetation type is mature forest.</td>
<td>Predominant floodplain vegetation type is young forest.</td>
<td>Predominant floodplain vegetation type is shrub or old field.</td>
<td>Predominant floodplain vegetation type is turf or crop land.</td>
</tr>
<tr>
<td>Floodplain Habitat</td>
<td>Even mix of wetland and non-wetland habitats, evidence of standing/ponded water.</td>
<td>Even mix of wetland and non-wetland habitats, evidence of standing/ponded water.</td>
<td>Either all wetland or all non-wetland habitat, evidence of standing/ponded water.</td>
<td>Either all wetland or all non-wetland habitat, no evidence of standing/ponded water.</td>
</tr>
<tr>
<td>Floodplain Encroachment</td>
<td>Moderate floodplain encroachment in the form of fill material, land development, or manmade structures, some effect on floodplain function.</td>
<td>Minor floodplain encroachment in the form of fill material, land development, or manmade structures, but not affecting floodplain function.</td>
<td>Significant floodplain encroachment (i.e., fill material, land development, or manmade structures). Significant effect on floodplain function.</td>
<td>Significant floodplain encroachment (i.e., fill material, land development, or manmade structures). Significant effect on floodplain function.</td>
</tr>
</tbody>
</table>

Sub Total In-stream: 257 /80 + Buffer/Floodplain: 67 /80 = Total Survey Reach 324 /160
**WATERSHED/SUBSHED:** KHR  
**DATE:** 08/18/20  
**ASSESSSED BY:** CM + BG

**SITE ID:** (Condition #) TR-2  
**PHOTO ID:** (Camera-Pic #:) PC080/# 08/1, 08/2  
**LAT:** 41° 51' 20"  
**LONG:** 70° 41' 37"  
**LMK:** GPS: (Unit ID)

<table>
<thead>
<tr>
<th>TYPE</th>
<th>MATERIAL</th>
<th>SOURCE</th>
<th>LOCATION</th>
<th>LAND OWNERSHIP</th>
<th>AMOUNT (# Pickup truck loads):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>Plastic</td>
<td>Unknown</td>
<td>Stream</td>
<td>Public</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Tires</td>
<td></td>
<td>Riparian Area</td>
<td>Unknown</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Appliances</td>
<td></td>
<td>Lt. bank</td>
<td>Private</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Automotive</td>
<td></td>
<td>Rt. bank</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**POTENTIAL RESTORATION CANDIDATE**  
- [ ] Stream cleanup  
- [ ] Stream adoption segment  
- [x] Removal/prevention of dumping

**EQUIPMENT NEEDED:**  
- [x] Heavy equipment  
- [ ] Trash bags  
- [ ] Unknown

**WHO CAN DO IT:**  
- [ ] Volunteers  
- [x] Local Gov  
- [x] Hazmat Team  
- [ ] Other

**DUMPSTER WITHIN 100 FT:**  
- [ ] Yes  
- [ ] No  
- [ ] Unknown

**CLEAN-UP POTENTIAL:** (Circle #)  
- [ ] 1  
- [ ] 2  
- [ ] 3  
- [ ] 4  
- [ ] 5

**NOTES:**  
- Dump site includes items such as oil drums, gabbage cans + auto parts. Adjacent to a stand of rhymatifer. Unsure of access.

**REPORTED TO AUTHORITIES**  
- [ ] Yes  
- [x] No
**Storm Water Outfalls**

**Watershed/Subshed:** EH4

**Survey Reach ID:** 02

**Site ID (Condition of): OT**

**Date:** 12/08/20

**Assessed by:** CMB

**Photo ID:** (Camera-Pic #) P080 #083

**Lat:** 41° 51' 33" **Long:** 32° 42' 38"

**LMK:**

**GPS:** (Unit ID)

**Bank:**
- [ ] LT
- [ ] RT
- [ ] Head

**Flow:**
- [x] None
- [ ] Trickle
- [ ] Moderate
- [ ] Substantial
- [ ] Other:

**Type:**
- [x] Closed pipe
- [ ] Open channel

**Material:**
- [x] Concrete
- [x] Metal
- [ ] PVC/Plastic
- [ ] Brick
- [ ] Other:

**Shape:**
- [x] Single
- [ ] Circular
- [ ] Double
- [ ] Elliptical
- [x] Triple
- [ ] Other:

**Dimensions:**
- Diameter: 12" (in)
- Depth:
  - (Top): ___ (in)
  - (Bottom): ___ (in)

**Submerged:**
- [ ] No
- [ ] Partially
- [x] Fully

**Condition:**
- [ ] None
- [ ] Chip/Cracked
- [ ] Peeling Paint
- [ ] Corrosion
- [ ] Other:

**Odor:**
- [x] None
- [ ] Gas
- [ ] Sewage
- [ ] Rancid/Sour
- [ ] Sulfide
- [ ] Other:

**Deposits/Stains:**
- [x] None
- [ ] Only
- [ ] Flow Line
- [x] Paint
- [ ] Other:

**Veggie Density:**
- [x] None
- [ ] Normal
- [ ] Inhibited
- [ ] Excessive
- [ ] Other:

**Pipe Benthic Growth:**
- [ ] None
- [ ] Brown
- [ ] Orange
- [ ] Green
- [ ] Other:

**Pool Quality:**
- [ ] No pool
- [ ] Good
- [ ] Odors
- [ ] Colors
- [ ] Oils
- [ ] Suds
- [ ] Algae
- [ ] Floatables
- [ ] Other:

**For Flowing Only**

**Color:**
- [ ] Clear
- [ ] Brown
- [ ] Grey
- [ ] Yellow
- [ ] Green
- [ ] Orange
- [ ] Red
- [ ] Other:

**Turbidity:**
- [ ] None
- [ ] Slight Cloudiness
- [ ] Cloudy
- [ ] Opaque

**Floatables:**
- [ ] None
- [ ] Sewage (toilet paper, etc.)
- [ ] Petroleum (oil sheen)
- [ ] Other:

**Other Concerns:**
- [ ] Excess Trash (paper/plastic bags)
- [ ] Dumping (bulk)
- [ ] Excessive Sedimentation
- [ ] Needs Regular Maintenance
- [x] Bank Erosion
- [ ] Other:

**Potential Restoration Candidate**
- [ ] Discharge investigation
- [ ] Stream daylighting
- [x] Local stream repair/outfall stabilization
- [x] Storm water retrofit
- [ ] Other:

**If yes for daylighting:**
- Length of vegetative cover from outfall: ______ ft
- Type of existing vegetation: __________
- Slope: __________

**If yes for stormwater:**
- Is stormwater currently controlled?
  - [ ] Yes
  - [ ] No
  - [x] Not investigated

**Land Use description:** Fected + Residential

**Area available:**

**Outfall Severity:**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
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<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

- [ ] Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.
- [ ] Small discharge; flow mostly clear and odorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor / localized.
- [x] Outfall does not have dry weather discharge; staining; or appearance of causing any erosion problems.

**Sketch/Notes:**

- Bank erosion + pipe is now

**Reported to Authorities:** [ ] Yes [ ] No
Stream Crossing

WATERSHED/SUBSHEDE: EHR
SURVEY REACH ID: 02
SITE ID: (Condition) SC-A
LAT 41° 51.09' LONG 72° 42.38'

TYPE: [ ] Road Crossing [ ] Railroad Crossing [ ] Manmade Dam [ ] Beaver Dam [ ] Geological Formation [ ] Other:

SHAPE: [ ] Arch [ ] Box [ ] Elliptical [ ] Circular [ ] Other:

FOR ROAD/RAILROAD CROSSINGS ONLY

# BARRELS: [ ] Single [ ] Double [ ] Triple [ ] Other:

CONDITION: (Evidence of...)
[ ] Cracking/chipping/corrosion [ ] Downstream scour hole [ ] Failing embankment [ ] Other (describe):

MATERIAL: [ ] Concrete [ ] Metal [ ] Other:

ALIGNMENT: [ ] Flow-aligned [ ] Not flow-aligned [ ] Do not know

DIMENSIONS: (if variable, sketch)
[ ] Barrel diameter: _____ (ft)
[ ] Height: _____ (ft)
[ ] Culvert length: _____ (ft)
[ ] Width: _____ (ft)

CULVERT SLOPE: [ ] Flat [ ] Slight (2° - 5°) [ ] Obvious (>5°)

Roadway elevation: _____ (ft)

POTENTIAL RESTORATION CANDIDATE
[ ] Fish barrier removal [ ] Culvert repair/replacement [ ] Upstream storage retrofit
[ ] no
[ ] Local stream repair [ ] Other:

IS SC ACTING AS GRADE CONTROL
[ ] No [ ] Yes [ ] Unknown

EXTENT OF PHYSICAL BLOCKAGE:
[ ] Total [ ] Partial [ ] Unknown

If yes for fish barrier

CAUSE:
[ ] Drop too high Water Drop: _____ (in)
[ ] Flow too shallow Water Depth: _____ (in)
[ ] Other:

BLOCKAGE SEVERITY: (circle #)

A structure such as a dam or road culvert on a 3rd order or greater stream blocking the upstream movement of anadromous fish; no fish passage device present.

A total fish blockage on a tributary that would isolate a significant reach of stream, or partial blockage that may interfere with the migration of anadromous fish.

A temporary barrier such as a beaver dam or a blockage at the very head of a stream with very little viable fish habitat above it; natural barriers such as waterfalls.

NOTES/SKETCH:

RIP-RAP has been placed along the banks for 10' downstream of the culvert passage.

REPORTED TO AUTHORITIES [ ] Yes [ ] No
**Stream Crossing**

**Watershed/Subshed:** BKR

**Survey Reach ID:** 09

**Site ID:** (Condition #) SC-B

**Lat:** 41° 51' 23"  **Long:** 70° 46' 38"

**Date:** 8-08-09  **Time:** 00:00  **Assessed By:** CMW 166

**Photo ID:** (Camera-Pic #) PC080  **# 283

**Type:**  
- [ ] Road Crossing  
- [ ] Railroad Crossing  
- [x] Mannmade Dam  
- [ ] Beaver Dam  
- [ ] Geological Formation  
- [ ] Other

**Shape:**  
- [ ] Arch  
- [ ] Bottomless  
- [ ] Box  
- [ ] Elliptical  
- [ ] Circular  
- [ ] Other

**Barrels:**  
- [x] Single  
- [ ] Double  
- [ ] Triple  
- [ ] Other

**Material:**  
- [ ] Concrete  
- [x] Metal  
- [ ] Other

**Alignment:**  
- [x] Flow-aligned  
- [ ] Not flow-aligned  
- [ ] Do not know

**Dimensions:** (If variable, sketch)
- [ ] Barrel diameter: 2 4/1  **in**
- [ ] Height: 100.0 **in**
- [ ] Culvert length: ________ **(ft)**
- [ ] Width: ________ **(ft)**
- [ ] Roadway elevation: ________ **(ft)**

**Potential Restoration Candidate:**  
- [ ] Fish barrier removal  
- [x] Culvert repair/replacement  
- [ ] Upstream storage retrofit  
- [ ] No  
- [ ] Local stream repair  
- [ ] Other

**Is SC acting as grade control:**  
- [ ] No  
- [x] Yes  
- [ ] Unknown

**Extent of Physical Blockage:**  
- [ ] Total  
- [ ] Partial  
- [ ] Temporary  
- [ ] Unknown

**Cause:**  
- [ ] Drop too high  
- [ ] Water Drop: ______ *in*
- [ ] Flow too shallow  
- [ ] Water Depth: ______ *in*
- [ ] Other

**Blockage Severity:** (Circle #)

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

**Notes/Sketch:**

Pipe is jutting out over the top of stream 1/8" high. The banks have eroded away. Unsure about access - surrounding land uses are residential/irrigated.

**Reported to Authorities:**  
- [ ] Yes  
- [ ] No
**Channel Modification**

**Watershed/Subshed:** BHR

**Survey Reach ID:** 07

**Time:** 11 AM/PM

**Photo ID:** (Camera Pic #)

**Site ID:** Condition A

<table>
<thead>
<tr>
<th>START LAT</th>
<th>END LAT</th>
<th>START LONG</th>
<th>END LONG</th>
<th>LMK</th>
<th>LMK</th>
</tr>
</thead>
</table>

**Type:** ☑ Bank armoring  ☐ concrete channel  ☐ Floodplain encroachment  ☐ Other:

<table>
<thead>
<tr>
<th>Type: Channelization</th>
<th>Bank Armoring</th>
<th>Concrete</th>
<th>Gabion</th>
<th>Rip Rap</th>
<th>Earthen</th>
<th>Metal</th>
<th>Other</th>
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</table>

**Material:**

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<th>Earthen</th>
<th>Metal</th>
<th>Other</th>
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</thead>
</table>

**Dimensions:**

<table>
<thead>
<tr>
<th>Height</th>
<th>Bottom Width</th>
<th>Top Width</th>
<th>Length</th>
</tr>
</thead>
</table>

**Base Flow Channel**

<table>
<thead>
<tr>
<th>Depth of flow</th>
<th>% of channel bottom</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Defined low flow channel?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

**Adjacent Stream Corridor**

<table>
<thead>
<tr>
<th>Available width</th>
<th>LT (ft)</th>
<th>RT (ft)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Utilities Present?</th>
<th>Fill in floodplain?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

**Potential Restoration Candidate**

<table>
<thead>
<tr>
<th>Structural repair</th>
<th>Base flow channel creation</th>
<th>Natural channel design</th>
<th>Can't tell</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>De-channelization</th>
<th>Fish barrier removal</th>
<th>Bioengineering</th>
</tr>
</thead>
</table>

**Channelization Severity:**

<table>
<thead>
<tr>
<th>Circle #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>A long section of concrete stream (&gt;500') channel where water is very shallow (&lt;1') deep with no natural sediments present in the channel.</td>
</tr>
<tr>
<td>4</td>
<td>A moderate length (&gt; 200') but channel stabilized and beginning to function as a natural stream channel. Vegetated bars may have formed in channel.</td>
</tr>
<tr>
<td>3</td>
<td>An earthen channel less than 100 ft with good water depth, a natural sediment bottom, and size and shape similar to the unchannelized stream reaches above and below impacted area.</td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**

- There are 2 areas containing rip-rap:
  1. At culvert junction with W Dudley town Rd
  2. At culvert junction with the barn/dike
Reach Level Assessment

**SURVEY REACH ID:** [Blank]  **WTRSH/Subshid:** WTR  **DATE:** 12/8/09  **ASSESSED BY:** CMY/BG

**START TIME:** 9:30 AM  **LMK:**  **END TIME:** 9:30 AM  **LMK:**

**LAT:** 41° 51' 44"  **LONG:** 72° 43' 08"

**DESCRIPTION:** North end of Dudley Town

**PRESENT CONDITIONS**  **SURROUNDING LAND USE**

- **Rain in Last 24 Hours:** None  **Industrial**
- **Steady Rain**  **Commercial**
- **Interruption**  **Urban/Residential**
- **Trace**  **Suburban/Res**
- **Overcast**  **Forested**
- **Partly Cloudy**  **Institutional**
- **Pasture**  **Other:**

**AVERAGE CONDITIONS (check applicable)**

- **Base Flow as %**
  - 0-25%
  - 50-75%
  - 75-100%

- **Channel Width**
  - 25-50%
  - 75-100%

- **Dominant Substrate**
  - Silty/clay (fine or slick)
  - Cobble (2.5-10"
  - Sand (gritty)
  - Boulder (>10"
  - Gravel (0.1-2.5"
  - Bed rock

- **Water Clarity**
  - Clear
  - Turbid (suspended matter)
  - Stained (clear, naturally colored)
  - Opaque (milky)
  - Other (chemicals, dyes)

- **Aquatic Plants in Stream**
  - Attached: None
  - Some
  - Lots

- **Wildlife in or Around Stream**
  - Evidence of:
    - RW waterfowl
    - Fish
    - Beaver
    - Deer
    - Snails
    - Other:

- **Stream Shading**
  - Mostly shaded (>75% coverage)
  - Halfway (>50%)
  - Partially shaded (>25%)
  - Unshaded (<25%)

- **Channel Dynamics**
  - Stable
  - Downcutting
  - Widening
  - Headcutting
  - Aggrading
  - Sed. deposition
  - Bed scour
  - Bank failure
  - Bank scour
  - Slope failure
  - Channelized

- **Reach Accessibility**
  - Good: Open area in public ownership, sufficient room to stockpile materials, easy stream channel access for heavy equipment using existing roads or trails.
  - Fair: Forested or developed area adjacent to stream. Access requires tree removal or impact to landscaped areas. Stockpile area small or distant from stream.
  - Difficult: Must cross wetland, steep slope, or sensitive areas to get to stream. Few areas to stockpile available and/or located a great distance from stream. Specialized heavy equipment required.

**NOTES:** (biggest problem you see in survey reach)

- Trash and dumping (car parts, plastic bottles, plastic buckets, etc.)
- Vinyl siding (trash cans, etc.)
- Parking lots runoff from industrial buildings (vehicle washing?)
- Reported to authorities: Yes No
### Overall Stream Condition

<table>
<thead>
<tr>
<th>In-Stream Habitat</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>(May modify criteria based on appropriate habitat regime)</td>
<td>Greater than 70% of substrate favorable for epilithic colonization and fish cover; mix of snags, submerged logs, undercut banks, cobbles or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and get transplanted).</td>
<td>40-70% mix of stable habitat; well-suiting for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrates in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).</td>
<td>20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.</td>
<td>Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.</td>
</tr>
<tr>
<td>Vegetative Protection</td>
<td>More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or woody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.</td>
<td>70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.</td>
<td>50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.</td>
<td>Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.</td>
</tr>
<tr>
<td>(score each bank, determine sides by facing downstream)</td>
<td>Left Bank 10 9</td>
<td>8 7 6</td>
<td>5 4 3 2 1 0</td>
<td>Left Bank 10 9</td>
</tr>
<tr>
<td></td>
<td>Right Bank 10 9</td>
<td>8 7 6</td>
<td>5 4 3 2 1 0</td>
<td>Right Bank 10 9</td>
</tr>
<tr>
<td>Bank Erosion (facing downstream)</td>
<td>Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. &lt;5% of bank affected.</td>
<td>Grade and width stable; isolated areas of bank failure/erosion; likely caused by a pipe outfall, local scour, impaired riparian vegetation or adjacent use.</td>
<td>Past downcutting evident, active stream widening, banks actively eroding at a moderate rate; no threat to property or infrastructure</td>
<td>Active downcutting; tall banks on both sides of the stream eroding at a fast rate; erosion contributing significant amount of sediment to stream; obvious threat to property or infrastructure</td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td>Floodplain Connection</td>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched.</td>
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### Overall Buffer and Floodplain Condition

<table>
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<td>5 4 3 2 1 0</td>
<td>2 1 0</td>
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<td>Right Bank 10 9</td>
<td>8 7 6</td>
<td>5 4 3 2 1 0</td>
<td>2 1 0</td>
</tr>
<tr>
<td>Floodplain Habitat</td>
<td>Even mix of wetland and non-wetland habitats, evidence of standing/ponded water</td>
<td>Even mix of wetland and non-wetland habitats, no evidence of standing/ponded water</td>
<td>Either all wetland or all non-wetland habitat, evidence of standing/ponded water</td>
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<td>8 7 6</td>
<td>5 4 3 2 1 0</td>
<td>2 1 0</td>
</tr>
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<td>Floodplain Encroachment</td>
<td>No evidence of floodplain encroachment in the form of fill material, land development, or manmade structures</td>
<td>Minor floodplain encroachment in the form of fill material, land development, or manmade structures, but not affecting floodplain function</td>
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<td></td>
<td>Left Bank 10 9</td>
<td>8 7 6</td>
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<td>Right Bank 10 9</td>
<td>8 7 6</td>
<td>5 4 3 2 1 0</td>
<td>2 1 0</td>
</tr>
</tbody>
</table>

Sub Total In-stream: **54/80** + Buffer/Floodplain: **50/80** = **Total Survey Reach** **104/160**
Storm Water Outfalls

WATERSHED/SUBSHED: WTR

SURVEY REACH ID: 01

SITE ID (Condition #: OT: #)

LAT 41° 51' 44" LONG 73° 43' 08"

BANK: ✓ LT □ RT □ Head

FLOW: № None □ Trickle

OPEN CHANNEL □ Open channel

TYPE: □ Closed pipe □ Open channel

MATERIAL: □ Concrete □ Metal □ PVC/Plastic □ Brick □ Other:

SHAPE: □ Single □ Circular □ Double □ Elliptical □ Triple □ Other:

DIMENSIONS: □ Diameter: _____ (in)

SUBMERGED: □ No □ Partially □ Fully

CONDITION: □ None □ Chip/Cracked □ Peeling Paint □ Corrosion □ Other:

DEPOSITS/STAINS: □ None □ Only □ Flow Line □ Paint □ Other:

VEGETATION DENSITY: □ None □ Normal □ Inhibited □ Excessive □ Other:

DEPOSITS/STAINS: □ None □ Only □ Flow Line □ Paint □ Other:

PIPE HENDIC GROWTH: □ None □ Brown □ Orange □ Green □ Other:

POOL QUALITY: □ No pool □ Good □ Odors □ Colors □ Oils □ Suds □ Algae □ Floatables □ Other:

COLOR: □ Clear □ Brown □ Grey □ Yellow □ Green □ Red □ Other:

TURBIDITY: □ None □ Slight Cloudiness □ Cloudy □ Opaque

FLOTABLES: □ None □ Sewage (toilet paper, etc.) □ Petroleum (oil sheen) □ Other:

OTHER CONCERNS: □ Excess Trash (paper/plastic bags) □ Dumping (bulk) □ Excessive Sedimentation □ Needs Regular Maintenance □ Bank Erosion □ Other:

FOR FLOWING ONLY

Length of vegetative cover from outfall: __________ ft

Type of existing vegetation: ____________________

Slope: ________

OUTFALL SEVERITY: (circle #)

Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.

Small discharge; flow mostly clear and odorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor / localized.

OUTFALL SEVERITY: (circle #)

5 □ 4 □ 3 □ 2 □ 1

Sketch/Notes: Significant erosion from impervious surface of high slope over stream. Stormwater runoffs are numerous and soil movement is occurring to stream channel from slope.

REPORTED TO AUTHORITIES: □ YES □ NO
**Stream Crossing**

**Watershed/Subshed:** WTX  
**Date:** 02/08/09  
**Assessed By:** 001/166

**Survey Reach ID:** 01  
**Time:** 9:50 AM  
**Photo ID:** (Camera-Pic #) Peo80 1# 075

**Site ID:** [Condition #] SC  
**Lat:** 41° 51' 46"  
**Long:** 72° 43' 09"  
**LMK:**  
**GPS (Unit ID):**

**Type:**  
- Road Crossing  
- Railroad Crossing  
- Manmade Dam  
- Beaver Dam  
- Geological Formation  
- Other

**Shape:**  
- Arch  
- Box  
- Circular  
- Elliptical  
- Other:

**Number of Barrels:**  
- Single  
- Double  
- Triple  
- Other:

**Material:**  
- Concrete  
- Metal  
- Other:

**Alignment:**  
- Flow-aligned  
- Not flow-aligned  
- Do not know

**Dimensions:** (If variable, sketch)
- Barrel diameter: _____ (ft)
- Height: _____ (ft)

**Culvert Slope:**  
- Flat  
- Slight (2° - 5°)  
- Obvious (>5°)

**Condition:** (Evidence of...)
- Cracking/chipping/corrosion  
- Downstream scour hole  
- Sediment deposition  
- Failing embankment  
- Other (describe):

**Potential Restoration Candidate:**  
- Fish barrier removal  
- Culvert repair/replacement  
- Upstream storage retrofit  
- Local stream repair  
- Other

**Is SC acting as Grade Control:**  
- No  
- Yes  
- Unknown

**Extent of Physical Blockage:**  
- Total  
- Partial  
- Temporary  
- Unknown

**Cause:**  
- Drop too high  
- Water Drop: _____ (in)
- Flow too shallow  
- Water Depth: _____ (in)

**Blockage Severity:** (Circle #)
- A structure such as a dam or road culvert on a 3rd order or greater stream blocking the upstream movement of anadromous fish; no fish passage device present.
- A total fish blockage on a tributary that would isolate a significant reach of stream, or partial blockage that may interfere with the migration of anadromous fish.
- A temporary barrier such as a beaver dam or a blockage at the very head of a stream with very little viable fish habitat above it; natural barriers such as waterfalls.

**Notes/Sketch:** looks ok

**Reported to Authorities:**  
- Yes  
- No
<table>
<thead>
<tr>
<th>Type:</th>
<th>Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material:</td>
<td>Plastic, Paper, Metal, Tire, Construction, Medical, Appliances, Yard Waste, Automotive, Other</td>
</tr>
<tr>
<td>Source:</td>
<td>Unknown</td>
</tr>
<tr>
<td>Location:</td>
<td>Riparian Area</td>
</tr>
<tr>
<td>Land Ownership:</td>
<td>Private</td>
</tr>
<tr>
<td>Amount (# Pickup truck loads):</td>
<td></td>
</tr>
</tbody>
</table>

**Potential Restoration Candidate:** Stream cleanup, Stream adoption segment, Removal/prevention of dumping

If yes for trash or debris removal:

- Equipment Needed: Heavy equipment, Trash bags, Unknown
- Who can do it: Volunteers, Local Gov, Hazmat Team, Other
- Dumpster within 100 ft: Yes, No, Unknown

**Clean-up Potential:**

- A small amount of trash (i.e., less than two pickup truck loads) located inside a park with easy access.
- A large amount of trash, or bulk items, in a small area with easy access. Trash may have been dumped over a long period of time but it could be cleaned up in a few days, possibly with a small backhoe.
- A large amount of trash or debris scattered over a large area, where access is very difficult. Or presence of drums or indications of hazardous materials.

**Notes:**

- Trash + dumping is a problem through this reach. Areas of note are consolidated to one sheet:
  - LB (left bank) where 18 wheeler trucks parked at the top of a steep slope + dump trash (including cups etc.) 241° 51' 44" / 70° 43' 08" can be remedied with pickup truck / bag removal. No photo. Easy access, no heavy machinery required.
  - LB + RB trash dumping (including plastic buckets, auto parts, vinyl siding, garbage cans, etc.). Easy access, heavy machinery likely required (for auto parts). No photo.
WTR-02

Reach Level Assessment

SURVEY REACH ID: WTR-02  WTRSHD/SUBSHD: WINON BULLY RES
DATE: 12/8/09  ASSESSED BY: 8G+CM

START TIME: 8:35 AM  LMK:
LAT 41° 51' 21"  LONG 73° 43' 25"
DESCRIPTION: OLD FARM ROAD

END TIME: 1:15 AM  LMK:
LAT 41° 51' 30"  LONG 73° 43' 16"
DESCRIPTION: OUTLET FROM FRESH POOL

RAIN IN LAST 24 HOURS: ☐ Heavy rain  ☐ Steady rain  ☐ Intermittent
☐ None  ☐ Trace  ☐ Overcast  ☐ Partly cloudy

SURROUNDING LAND USE: ☐ Industrial  ☐ Commercial
☐ Golf course  ☐ Park  ☐ Urban/Residential  ☐ Suburban/Res
☐ Forested  ☐ Institutional  ☐ Crop  ☐ Pasture  ☐ Other:

PRESENT CONDITIONS:  ☐ Heavy rain  ☐ Steady rain  ☐ Intermittent
☐ Clear  ☐ Trace  ☐ Overcast  ☐ Partly cloudy

AVERAGE CONDITIONS (check applicable):

BASE FLOW AS %
☐ 0-25%  ☐ 50-75%  ☐ 75-100%

CHANNEL WIDTH
☐ 25-50%  ☐ 75-100%

DOMINANT SUBSTRATE
☐ Silty/clay (fine or slick)  ⊗ Sand (gritty)
☐ Gravel (0.1-2.5")  ☐ Cobble (2.5-10")
☐ Boulder (10")

WATER CLARITY
☒ Clear  ☐ Turbid (suspended matter)
☐ Stained (clear, naturally colored)  ☐ Opaque (milky)
☐ Other (chemicals, dyes)

AQUATIC PLANTS IN STREAM
☒ Attached: ☐ none  ☐ some  ☐ lots
☒ Floating: ☐ none  ☐ some  ☐ lots

WILDLIFE IN OR AROUND STREAM
(Evidence of)
☐ Fish  ☐ Beaver  ☐ Otter
☐ Snails  ☐ Other: RACCOON

STREAM SHADING (water surface)
☒ Mostly shaded (≥75% coverage)
☐ Halfway (≥50%)
☐ Partially shaded (≥25%)
☐ Unshaded (<25%)

CHANNEL DYNAMICS
☒ Downcutting
☒ Widening
☒ Headcutting
☒ Aggrading
☒ Sed. deposition

BED SCOUR
☐ Bank failure
☐ Bank scour

SLOPE FAILURE
☐ Channelized

CHANNEL HEIGHT
Left bank:
2 (ft)

MOST LOW POINT:
Right bank:
2 (ft)

REACH ACCESSIBILITY
Good: Open area in public ownership, sufficient room to stockpile materials, easy stream channel access for heavy equipment using existing roads or trails.
Fair: Forested or developed area adjacent to stream, access requires tree removal or impact to landscaped areas. Stockpile areas small or distant from stream.
Difficult: Must cross wetland, steep slope, or sensitive areas to get to stream. Few areas to stockpile available and/or located a great distance from stream. Specialized heavy equipment required.

NOTES: (biggest problem you see in survey reach)

DOWNCUTTING, EROSION BELOW DAM CULVET.
BUFFALO ENCROACHMENT ON BANK (NEW BLDG).

REPORTED TO AUTHORITIES: ☐ Yes  ☐ No
### OVERALL STREAM CONDITION

<table>
<thead>
<tr>
<th></th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IN-STREAM HABITAT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(May modify criteria based on appropriate habitat regime)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greater than 70% of substrate favorable for epiphyte colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).</td>
<td>40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).</td>
<td>20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.</td>
<td>Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.</td>
<td></td>
</tr>
<tr>
<td>20 19 18 17 16</td>
<td>15 14 13 12 11</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1</td>
<td>0</td>
</tr>
<tr>
<td><strong>VEGETATIVE PROTECTION</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(score each side, determine advisability)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>More than 80% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.</td>
<td>70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.</td>
<td>50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.</td>
<td>Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.</td>
<td></td>
</tr>
<tr>
<td>Left Bank 10</td>
<td>9 8 7 6</td>
<td>5 4 3</td>
<td>2 1 0</td>
<td>0</td>
</tr>
<tr>
<td>Right Bank 10</td>
<td>9 8 7 6</td>
<td>5 4 3</td>
<td>2 1 0</td>
<td>0</td>
</tr>
<tr>
<td><strong>BANK EROSION</strong> (facing downstream)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems.</td>
<td>Grade and width stable; isolated areas of bank failure; erosion likely caused by a pipe outfall, local scour, impaired riparian vegetation or adjacent site.</td>
<td>Past downcutting evident, active stream widening, banks actively eroding at a moderate rate; no threat to property or infrastructure.</td>
<td>Active downcutting; bank on both sides of stream eroding at a fast rate; erosion contributing significant amount of sediment to stream; obvious threat to property or infrastructure.</td>
<td></td>
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<td>0</td>
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<tr>
<td><strong>FLOODPLAIN CONNECTIVITY</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
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### OVERALL BUFFER AND FLOODPLAIN CONDITION

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<tbody>
<tr>
<td><strong>VEGETATED BUFFER WIDTH</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Width of buffer zone &gt;50 feet; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, crops) have not impacted zone.</td>
<td>Width of buffer zone 25-50 feet; human activities have impacted zone only minimally.</td>
<td>Width of buffer zone 10-25 feet; human activities have impacted zone a great deal.</td>
<td>Width of buffer zone &lt;10 feet; little or no riparian vegetation due to human activities.</td>
<td></td>
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<td>5 4 3</td>
<td>2 1 0</td>
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<td>5 4 3</td>
<td>2 1 0</td>
<td>0</td>
</tr>
<tr>
<td><strong>FLOODPLAIN VEGETATION</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Predominant floodplain vegetation type is mature forest</td>
<td>Predominant floodplain vegetation type is young forest</td>
<td>Predominant floodplain vegetation type is shrub or old field</td>
<td>Predominant floodplain vegetation type is turf or crop land</td>
<td></td>
</tr>
<tr>
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<td>15 14 13 12 11</td>
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<td>5 4 3 2 1</td>
<td>0</td>
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<td><strong>FLOODPLAIN ENCROACHMENT</strong></td>
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<td>(15) 14 13 12 11</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1</td>
<td>0</td>
</tr>
</tbody>
</table>

Sub Total In-stream: 70 /80 + Buffer/Floodplain: 70 /80 = Total Survey Reach 140 /160
Stream Crossing

Watershed/Subshed: WTR
Survey Reach ID: 02
Site ID: (Condition #: SC-4)
Lat 41° 51′ 21″ Long 72° 43′ 25″

Type: □ Road Crossing □ Railroad Crossing □ Manmade Dam □ Beaver Dam □ Geological Formation □ Other:

Shape: □ Arch □ Bottomless □ Box □ Elliptical □ Circular □ Other:

Barrels: □ Single □ Double □ Triple □ Other:

Material: □ Concrete □ Metal □ Other:

Alignment: □ Flow-aligned □ Not flow-aligned □ Do not know

Dimensions: (if variable, sketch)
Barrel diameter: ______ (ft)
Height: ______ (ft)
Culvert length: ______ (ft)
Width: ______ (ft)
Roadway elevation: ______ (ft)

Condition: (Evidence of...)
□ Cracking/chipping/corrosion □ Downstream scour hole □ Sediment deposition □ Failing embankment □ Other (describe):

Potential Restoration Candidate: □ Fish barrier removal □ Culvert repair/replacement □ Upstream storage retrofit
□ Local stream repair □ Other:

Is SC acting as grade control: □ No □ Yes □ Unknown

Extent of Physical Blockage:
□ Total □ Partial □ Temporary □ Unknown

Cause:
□ Drop too high □ Flow too shallow □ Water Drop: ______ (in)

Blockage Severity: (circle #)

<table>
<thead>
<tr>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>A structure such as a dam or road culvert on a 3rd order or greater stream blocking the upstream movement of anadromous fish; no fish passage device present.</td>
<td>A total fish blockage on a tributary that would isolate a significant reach of stream, or partial blockage that may interfere with the migration of anadromous fish.</td>
<td>A temporary barrier such as a beaver dam or a blockage at the very head of a stream with very little viable fish habitat above it; natural barriers such as waterfalls.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes/Sketch:
**Stream Crossing**

**Watershed/Subshed:** WTR  
**Survey Reach ID:** 07  
**Photo ID:** (Camera-Pic #) 2080  
**Site ID:** (Condition #) SC-B  
**Latitude:** 41° 01' 32"  
**Longitude:** 72° 43' 16"  
**LMK:**  
**GPS (Unit ID):**  

---

**Type:**  
- [ ] Road Crossing  
- [ ] Railroad Crossing  
- [x] Manmade Dam  
- [ ] Beaver Dam  
- [ ] Geological Formation  
- [ ] Other:  

---

**Shape:**  
- [ ] Arch  
- [ ] Bottomless  
- [ ] Box  
- [ ] Elliptical  
- [ ] Circular  
- [ ] Other:  

---

**Number of Barrels:**  
- [ ] Single  
- [ ] Double  
- [ ] Triple  
- [ ] Other:  

---

**Material:**  
- [ ] Concrete  
- [ ] Metal  
- [ ] Other:  

---

**Alignment:**  
- [ ] Flow-aligned  
- [ ] Not flow-aligned  
- [ ] Do not know  

---

**Dimensions:** (if variable, sketch)  
- **Barrel Diameter:** 3' (ft)  
- **Height:** 2' (ft)  
- **Culvert Length:** ________ (ft)  
- **Width:** ________ (ft)  
- **Roadway Elevation:** ________ (ft)  

---

**Potential Restoration Candidate:**  
- [ ] Fish barrier removal  
- [ ] Culvert repair/replacement  
- [ ] Upstream storage retrofit  
- [ ] Local stream repair  
- [ ] Other:  

---

**Is SC acting as grade control:**  
- [ ] No  
- [x] Yes  
- [ ] Unknown  

---

**Extent of Physical Blockage:**  
- [ ] Total  
- [ ] Partial  
- [ ] Temporary  
- [ ] Unknown  

---

**Cause:**  
- [ ] Drop too high  
- [ ] Flow too shallow  
- [ ] Other:  

---

**Water Drop:** ________ (in)  
**Water Depth:** ________ (in)  

---

**Blockage Severity:** (circle #)  
- [ ] 1  
- [ ] 2  
- [ ] 3  
- [ ] 4  
- [ ] 5  

---

**Notes/Sketch:**  

---

**Reported to authorities:**  
- [ ] Yes  
- [ ] No  

---

**Additional Remarks:**  

---

**Elevation:**
- [ ] 3' (ft)  
- [ ] 2' (ft)  

---

**Additional Information:**
- [ ] Cannot do much since upstream dam.
<table>
<thead>
<tr>
<th>WATERSHED/SUBSHED:</th>
<th>WTR</th>
<th>DATE: 2/08/09</th>
<th>ASSESSED BY: CNTRG</th>
</tr>
</thead>
<tbody>
<tr>
<td>SURVEY REACH ID:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TIME: AM/PM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHOTO ID:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPS:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SITE ID: (Condition-#)</td>
<td>TR-</td>
<td>LAT: 41°51'02&quot;</td>
<td>LONG: 72°43'24&quot;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LMK:</td>
<td></td>
</tr>
<tr>
<td>TYPE:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industrial</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATERIAL:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plastic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paper</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tires</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appliances</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yard Waste</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automotive</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other: Toilet</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOURCE:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flooding</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illegal dump</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local outfall</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LOCATION:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stream</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Riparian Area</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LI bank</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RT bank</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LAND OWNERSHIP:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMOUNT (# Pickup truck loads):</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POTENTIAL RESTORATION CANDIDATE:</td>
<td>Stream cleanup, Stream adoption segment, Removal/prevention of dumping</td>
<td></td>
<td></td>
</tr>
<tr>
<td>If yes for trash or debris removal:</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equipment Needed:</td>
<td>Heavy equipment, Trash bags, Unknown</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Who can do it:</td>
<td>Volunteers, Local Gov, Hazmat Team, Other</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dumpster within 100 ft:</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CLEAN-UP POTENTIAL:</td>
<td>A small amount of trash (i.e., less than two pickup truck loads) located inside a park with easy access</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Notes:</td>
<td>Broken glass, tires, debris, toilet, EASY ACCESS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

REPORTED TO AUTHORITIES: YES NO
**Impacted Buffer**

<table>
<thead>
<tr>
<th>WATERSHED/SUBSHED:</th>
<th>DATE: / /</th>
</tr>
</thead>
<tbody>
<tr>
<td>SURVEY REACH:</td>
<td>TIME: <em>:</em> AM/PM</td>
</tr>
<tr>
<td>PHOTO ID: (Camera-Pic #) /#</td>
<td>GO: (Unit ID)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SITE ID: (Condition #)</th>
<th>START LAT. °'&quot;&quot;&quot; LONG. °'&quot;&quot;&quot; LMK</th>
<th>END LAT. °'&quot;&quot;&quot; LONG. °'&quot;&quot;&quot; LMK</th>
</tr>
</thead>
<tbody>
<tr>
<td>IB:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IMPACTED BANK:</th>
<th>REASON INADEQUATE:</th>
<th>LAND USE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ LT □ RT □ Both</td>
<td>□ Lack of vegetation □ Too narrow □ Widespread invasive plants</td>
<td>□ Private □ Institutional □ Golf Course □ Park □ Other Public</td>
</tr>
<tr>
<td></td>
<td>□ Recently planted</td>
<td>□ Other: erosion + soil movement</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(Facing downstream)</th>
<th>LT Bank</th>
<th>RT Bank</th>
<th>LAND COVER:</th>
<th>DOMINANT</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Paved □ Bare ground □ Turf/lawn □ Tall grass □ Shrub/scrub □ Trees □ Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>□ Paved □ Bare ground □ Turf/lawn □ Tall grass □ Shrub/scrub □ Trees □ Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INVASIVE PLANTS:</th>
<th>STREAM SHADE PROVIDED?</th>
<th>POTENTIAL RESTORATION CANDIDATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ None □ Rare □ Partial coverage □ Extensive coverage □ Unknown</td>
<td>□ None □ Partial □ Full</td>
<td>□ Active reforestation □ Greenway design □ Natural regeneration □ Invasives removal</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RESTORABLE AREA</th>
<th>POTENTIAL RESTORATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>LT Bank</td>
<td>Width (ft): 5</td>
</tr>
<tr>
<td>RT Bank</td>
<td>Width (ft): 4</td>
</tr>
</tbody>
</table>

**RESTORABLE AREA**

**REFORESTATION POTENTIAL**

<table>
<thead>
<tr>
<th>Impacted area on public land where the riparian area does not appear to be used for any specific purpose; plenty of area available for planting</th>
<th>Impacted area on either public or private land that is presently used for a specific purpose; available area for planting adequate</th>
<th>Impacted area on private land where road; building encroachment or other feature significantly limits available area for planting</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>

**POTENTIAL CONFLICTS WITH REFORESTATION**

□ Widespread invasive plants □ Potential contamination □ Lack of sun □ Poor/unsafe access to site □ Existing impervious cover □ Severe animal impacts (deer, beaver) □ Other:

**NOTES:**

1. LB behind new building where there is thin forested buffer + sediment has been pushed up to 60' from the top of bank (due to recent construction) w/ no erosion control measures in place. The slope is steep + sediment has recently washed off slope into brook. There are several wash outs / scars 41°51'41"N / 72°43'24"W.

2. LB behind new buildings + parking area / recent construction w/o erosion control measures, no GPS.
**Survey Reach ID:** [Blank]  
**WTRSHD/Subsid:** TDB  
**DATE:** 11/30/09  
**ASSESS BY:** [Blank]

**Start:** 3:00 AM  
LAT: 41° 49' 42"  
Long: 72° 45' 02"  
Description: Forested section

**End:** 3:55 AM  
LAT: 41° 49' 50"  
Long: 72° 45' 11"  
Description: (Blank)

**Rain in Last 24 Hours:**  
- Heavy rain
- Steady rain
- None
- Intermittent
- Trace

**Present Conditions:**  
- Heavy rain
- Steady rain
- Intermittent
- Clear
- Trace
- Overcast
- Partly cloudy

**Surrounding Land Use:**  
- Industrial
- Commercial
- Golf course
- Park
- Urban/Residential
- Suburban/Res
- Forested
- Institutional
- Crop
- Pasture
- Other

### Average Conditions (check applicable)

**Base Flow as %:**  
- 0-25%
- 25-50%
- 50-75%
- 75-100%

**Dominant Substrate:**  
- Silts/clays (fine or sticky)  
- Sand (gritty)  
- Gravel (0.1-2.5")  
- Cobble (2.5-10")  
- Boulder (>10")  
- Bedrock

**Water Clarity:**  
- Clear  
- Turbid (suspended matter)
- Stained (clear, naturally colored)
- Opaque (milky)
- Other (chemicals, dyes)

**Aquatic Plants in Stream:**  
- Attached: none
- Some: lot
- Some: lots

**Wildlife in or Around Stream:**  
- Evidence of:  
- Fish  
- Beaver  
- Deer  
- Snails  
- Other:

**Stream Shading (water surface):**  
- Mostly shaded (275% coverage)  
- Halfway (50%)
- Partially shaded (25%)
- Unshaded (< 25%)

**Channel Dynamics:**  
- Downcutting
- Widening
- Headcutting
- Aggrading
- Sed. deposition
- Bed scour
- Bank failure
- Bank scour
- Slope failure
- Channelized

**Banks:**  
- Left bank: 2' (ft)
- Right bank: 3' (ft)
- Bottom: 8' (ft)

**Reach Accessibility:**  
- Good: Open area in public ownership, sufficient room to stockpile materials, easy stream channel access for heavy equipment using existing roads or trails.
- Fair: Forested or developed area adjacent to stream. Access requires tree removal or impact to landscaped areas. Stockpile areas small or distant from stream.
- Difficult: Marsh/wetland, steep slope, or sensitive areas to get to stream. Few areas to stockpile available, and/or located a great distance from stream. Specialized heavy equipment required.

**NOTES:** (biggest problem you see in survey reach)  
- Dumping, including old car, heating oil tank, old drums, stove, etc.  
- Silt, tussock, trees, some in wreaths plants (multiflora rose, knotweed, garlic mustard, barberry)

**Reach Sketch and Site Impact Tracking:**  
Simple plan sketch of survey reach. Track locations and IDs for all site impacts within the survey reach (OT, ER, IB, SC, UT, TR, MI) as well as any additional features deemed appropriate. Indicate direction of flow.

---

**Reported to authorities:** [Yes/No]
## Overall Stream Condition

<table>
<thead>
<tr>
<th>In-stream Habitat</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>(May modify criteria based on appropriate habitat regime)</td>
<td>Greater than 70% of substrate favorable for epilithal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).</td>
<td>40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).</td>
<td>20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.</td>
<td>Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.</td>
</tr>
<tr>
<td>20 19 18 17 16</td>
<td>(15) 14 13 12 11</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1 0</td>
<td></td>
</tr>
</tbody>
</table>

### Vegetative Protection

(score each bank, determine sides by facing downstream)

<table>
<thead>
<tr>
<th>Bank Erosion (facing downstream)</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banks stable: evidence of erosion or bank failure absent or minimal; little potential for future problems.</td>
<td>Grade and width stable; isolated areas of bank failure/erosion; likely caused by a pipe outfall, local scour, impaired riparian vegetation or adjacent use.</td>
<td>Past downcutting evident, active stream widening, banks actively eroding at a moderate rate; no threat to property or infrastructure.</td>
<td>Active downcutting; tall banks on both sides of the stream eroding at a fast rate; erosion contributing significant amount of sediment to stream; obvious threat to property or infrastructure.</td>
<td></td>
</tr>
<tr>
<td>Left Bank 10 9</td>
<td>7 6</td>
<td>5 4 3</td>
<td>2 1 0</td>
<td></td>
</tr>
<tr>
<td>Right Bank 10 9</td>
<td>7 6</td>
<td>5 4 3</td>
<td>2 1 0</td>
<td></td>
</tr>
</tbody>
</table>

### Floodplain Connection

High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.

| 20 19 (15) 17 16 | 15 14 13 12 11 | 10 9 8 7 6 | 5 4 3 2 1 0 |

## Overall Buffer and Floodplain Condition

<table>
<thead>
<tr>
<th>Vegetated Buffer Width</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width of buffer zone &gt;50 feet; human activities (i.e., parking lots, roadsides, clear-cuts, lawns, crops) have not impacted zone.</td>
<td>Width of buffer zone 25-50 feet; human activities have impacted zone only minimally.</td>
<td>Width of buffer zone 10-25 feet; human activities have impacted zone a great deal.</td>
<td>Width of buffer zone &lt;10 feet; little or no riparian vegetation due to human activities.</td>
<td></td>
</tr>
<tr>
<td>Left Bank 10 9</td>
<td>8 7 6</td>
<td>5 4 3</td>
<td>2 1 0</td>
<td></td>
</tr>
<tr>
<td>Right Bank 10 9</td>
<td>8 7 6</td>
<td>5 4 3</td>
<td>2 1 0</td>
<td></td>
</tr>
</tbody>
</table>

### Floodplain Vegetation

Predominant floodplain vegetation type is mature forest.

| 20 19 18 17 16 | 15 14 13 12 11 | 10 9 8 7 6 | 5 4 3 2 1 0 |

### Floodplain Habitat

| 20 19 18 17 16 | 15 14 13 12 11 | 10 9 8 7 6 | 5 4 3 2 1 0 |

### Floodplain Encroachment

| 20 19 18 17 16 | 15 14 13 12 11 | 10 9 8 7 6 | 5 4 3 2 1 0 |

Sub Total In-stream: 65/80 + Buffer/Floodplain: 60/80 = Total Survey Reach 125/160
Trash and Debris

**Watershed/Subsheds:** TDB

**Survey Reach ID:** S

**Type:**
- [ ] Industrial
- [ ] Commercial
- [x] Residential

**Material:**
- [x] Plastic
- [x] Tires
- [x] Appliances
- [x] Automotive
- [x] Paper
- [x] Metal
- [ ] Construction
- [ ] Medical
- [x] Yard Waste
- [x] Other: Sink + Toilet

**Source:**
- [x] Unknown
- [ ] Floodling
- [x] Illegal dump
- [ ] Local outfall
- [ ] Stream
- [x] Riparian Area
- [ ] Lt bank
- [ ] Rt bank

**Location:**
- [x] Public
- [ ] Private

**Land Ownership:**
- [x] Unknown

**Amount (# Pickup truck loads):**

**Potential Restoration Candidate:**
- [x] Stream cleanup
- [ ] Stream adoption segment
- [x] Removal/prevention of dumping

**If yes for trash or debris removal:**
- [ ] No
- [ ] Other:

**Equipment Needed:**
- [x] Heavy equipment
- [x] Trash bags
- [ ] Unknown

**Who Can Do It:**
- [ ] Volunteers
- [x] Local Gov
- [x] Hazmat Team
- [ ] Other

**Dumpster Within 100 Ft:**
- [ ] Yes
- [ ] No
- [ ] Unknown

**Clean-Up Potential:**

<table>
<thead>
<tr>
<th>Circle #</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notes:</td>
<td>O Heating oil tank on Lt 241°49'42&quot;/73°45'02&quot; likely illegally dumped on private residence.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>O RB 241°49'47&quot;/73°45'10&quot; including an automobile, oil drums, tires, stove, sink, toilet, invasive plants here (J. knapweed).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Reported To Authorities:**
- [ ] Yes
- [ ] No
**Stream Crossing**

**Watershed/Subshed:** 4 03

**Survey Reach ID:** 5

**Site ID:** SC-3262-09

**Date:** 11/30/09

**Assessed by:** CMM+86

**Time:** 3:30 AM

**Photo ID:** (Camera-Pic #)

**Latitude:** 41° 49.50”

**Longitude:** 72° 45.11”

**LMK:**

**GPS (Unit ID):**

---

**Type:**
- [ ] Road Crossing
- [ ] Railroad Crossing
- [ ] Manmade Dam
- [ ] Beaver Dam
- [ ] Geological Formation
- [ ] Other

**Shape:**
- [ ] Arch
- [ ] Bottomless
- [ ] Box
- [ ] Elliptical
- [ ] Circular
- [ ] Other

**# Barrels:**
- [ ] Single
- [ ] Double
- [ ] Triple
- [ ] Other

**Material:**
- [ ] Concrete
- [ ] Metal
- [ ] Other

**Alignment:**
- [ ] Flow-aligned
- [ ] Not flow-aligned
- [ ] Do not know

**Dimensions:**
- [ ] Barrel diameter: ____(ft)
- [ ] Height: ____(ft)

**Potential Restoration Candidate:**
- [ ] Fish barrier removal
- [ ] Culvert repair/replacement
- [ ] Upstream storage retrofit

**Condition:**
- [ ] Evidence of:
- [ ] Cracking/chipping/corrosion
- [ ] Sediment deposition
- [ ] Other

**Culvert Slope:**
- [ ] Flat
- [ ] Slight (2° - 5°)
- [ ] Obvious (>5°)

**Roadway elevation:** ____(ft)

**Potential Restoration Candidate:**
- [ ] Fish barrier removal
- [ ] Culvert repair/replacement
- [ ] Upstream storage retrofit

**Is SC Acting as Grade Control:**
- [ ] No
- [ ] Yes
- [ ] Unknown

**Extents of Physical Blockage:**
- [ ] Total
- [ ] Partial
- [ ] Temporary
- [ ] Unknown

**Cause:**
- [ ] Drop too high
- [ ] Water Drop: ____(in)
- [ ] Flow too shallow
- [ ] Water Depth: ____(in)
- [ ] Other

**Blockage Severity:**
- [ ] A structure such as a dam or road culvert on a 3rd order or greater stream blocking the upstream movement of anadromous fish; no fish passage device present.
- [ ] A total fish blockage on a tributary that would isolate a significant reach of stream, or partial blockage that may interfere with the migration of anadromous fish.
- [ ] A temporary barrier such as a beaver dam or a blockage at the very head of a stream with very little viable fish habitat above it; natural barriers such as waterfalls.

**Notes/Sketch:**

---

**Reported to Authorities:**
- [ ] Yes
- [ ] No
SURVEY REACH ID: BR-6
WTSHD/SUBSHD: TUMBLEDOWN BRZ
DATE: 11/30/09
ASSESS: B6+CAM

START TIME: 3:00 AM
LAT:   LONG: LMK:
DESCRIPTION: CONFLUENCE WITH MUL

END TIME: 3:20 AM
LAT:   LONG: LMK:
DESCRIPTION: CONFLUENCE WITH MUL

RAIN IN LAST 24 HRS:
- Heavy rain
- Steady rain
- None
- Intermittent

PRESENT CONDITIONS:
- Heavy rain
- Steady rain
- Intermittent
- Clear
- Overcast
- Partly cloudy

SURROUNDING LAND USE:
- Industrial
- Commercial
- Golf course
- Park
- Urban/Residential
- Suburban/Residential
- Crop
- Pasture
- Other:

AVERAGE CONDITIONS (check applicable):

- Base flow as %
  - 0-25%
  - 25-50%
  - 50-75%
  - 75-100%

- Channel width
  - 0-25%
  - 25-50%
  - 50-75%
  - 75-100%

- Dominant substrate
  - Silt/clay (fine or slick)
  - Sand (gritty)
  - Gravel (0.1-2.5"
  - Cobble (2.5-10"
  - Boulder (>10"
  - Bed rock

- Water clarity
  - Clear
  - Turbid (suspended matter)
  - Stained (clear, naturally colored)
  - Opaque (milky)
  - Other (chemicals, dyes)

- Aquatic plants in stream
  - Attached: none
  - Floating: none
  - Some: none
  - Lots

- Wildlife in or around stream
  - Fish
  - Beaver
  - Deer
  - Snails
  - Other:

- Stream shading (water surface)
  - Mostly shaded (>75% coverage)
  - Halfway (>50%)
  - Partially shaded (>25%)
  - Unshaded (<25%)

- Channel dynamics
  - Downcutting
  - Widening
  - Headcutting
  - Aggrading
  - Sed. deposition
  - Bed scour
  - Bank failure
  - Bank scour
  - Slope failure
  - Channelized

REACH SKETCH AND SITE IMPACT TRACKING
Simple plan sketch of survey reach. Track locations and IDs for all site impacts within the survey reach (OT, ER, IBSC, UT, TR, MI) as well as any additional features deemed appropriate. Indicate direction of flow.

REACH ACCESSIBILITY
Good: Open area in public ownership, sufficient room to stockpile material, easy stream channel access for heavy equipment using existing roads or trails.

Fair: Forested or developed area adjacent to stream. Access requires tree removal or impact to landscaped areas. Stockpile areas small or distant from stream.

Difficult: Must cross wetland, steep slope, or sensitive areas to get to stream. Few areas to stockpile available and/or located a great distance from stream. Specialized heavy equipment required.

NOTES: (biggest problem you see in survey reach)

REPORTED TO AUTHORITIES: YES

## Overall Stream Condition

<table>
<thead>
<tr>
<th></th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>In-Stream Habitat</strong></td>
<td>Greater than 70% of substrate favorable for epilithic colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).</td>
<td>40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).</td>
<td>20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.</td>
<td>Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.</td>
</tr>
<tr>
<td><strong>Vegetative Protection</strong></td>
<td>More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.</td>
<td>70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.</td>
<td>50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.</td>
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<td><strong>Bank Erosion</strong></td>
<td>Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. &lt;5% of bank affected.</td>
<td>Grade and width stable; isolated areas of bank failure/erosion; likely caused by a pipe outfall, local scour, impaired riparian vegetation or adjacent use.</td>
<td>Past downcutting evident, active stream widening; banks actively eroding at a moderate rate; no threat to property or infrastructure.</td>
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<td><strong>Floodplain Connectivity</strong></td>
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</tbody>
</table>

## Overall Buffer and Floodplain Condition

<table>
<thead>
<tr>
<th></th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
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<tr>
<td><strong>Vegetated Buffer Width</strong></td>
<td>Width of buffer zone &gt;50 feet; human activities (i.e., parking lots, racetracks, clear-cuts, lawns, crops) have not impacted zone.</td>
<td>Width of buffer zone 25-50 feet; human activities have impacted zone only minimally.</td>
<td>Width of buffer zone 10-25 feet; human activities have impacted zone a great deal.</td>
<td>Width of buffer zone &lt;10 feet; little or no riparian vegetation due to human activities.</td>
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<tr>
<td><strong>Floodplain Vegetation</strong></td>
<td>Predominant floodplain vegetation type is mature forest</td>
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<td>Predominant floodplain vegetation type is turf or crop land</td>
</tr>
<tr>
<td><strong>Floodplain Habitat</strong></td>
<td>Even mix of wetland and non-wetland habitats, evidence of standing/ponded water</td>
<td>Even mix of wetland and non-wetland habitats, no evidence of standing/ponded water</td>
<td>Either all wetland or all non-wetland habitat, evidence of standing/ponded water</td>
<td>Either all wetland or all non-wetland habitat, no evidence of standing/ponded water</td>
</tr>
<tr>
<td><strong>Floodplain Encroachment</strong></td>
<td>No evidence of floodplain encroachment in the form of fill material, land development, or manmade structures.</td>
<td>Minor floodplain encroachment in the form of fill material, land development, or manmade structures, but not effective floodplain function</td>
<td>Moderate floodplain encroachment in the form of filling, land development or manmade structures, some effect on floodplain function</td>
<td>Significant floodplain encroachment (i.e., fill material, land development, or man-made structures). Significant effect on floodplain function</td>
</tr>
</tbody>
</table>

Sub Total In-stream: 54 / 80 + Buffer/Floodplain: 41 / 80 = Total Survey Reach 75 / 160
Storm Water Outfalls

<table>
<thead>
<tr>
<th>WATERSHED/SUBSHED:</th>
<th>TOB</th>
<th>DATE:</th>
<th>1/30/09</th>
</tr>
</thead>
<tbody>
<tr>
<td>SURVEY REACH ID:</td>
<td>6</td>
<td>TIME:</td>
<td>3:15 AM</td>
</tr>
<tr>
<td>PHOTO ID: (Camera-Pic #)</td>
<td>#15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SITE ID (Condition #:)</td>
<td>04</td>
<td>LAT:</td>
<td>40°49'37&quot;</td>
</tr>
<tr>
<td>GPS: (Unit ID)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BANK:</td>
<td>LT</td>
<td>FLOW:</td>
<td>None</td>
</tr>
<tr>
<td>TYPE:</td>
<td></td>
<td>MODERATE</td>
<td>Trickle</td>
</tr>
<tr>
<td>MATERIAL:</td>
<td></td>
<td>SUBTANTIAL</td>
<td>Other:</td>
</tr>
<tr>
<td>SHAPE:</td>
<td></td>
<td>OTHER:</td>
<td>Metal:</td>
</tr>
<tr>
<td>DIMENSIONS:</td>
<td></td>
<td>OTHER:</td>
<td>Closed pipe</td>
</tr>
<tr>
<td>SUBMERGED:</td>
<td></td>
<td>OTHER:</td>
<td>Concrete</td>
</tr>
<tr>
<td>CONDITION:</td>
<td></td>
<td>OTHER:</td>
<td>PVC/Plastic</td>
</tr>
<tr>
<td>DEPOSITS/STAINS:</td>
<td></td>
<td>OTHER:</td>
<td>Brick:</td>
</tr>
<tr>
<td>VEGGIE DENSITY:</td>
<td></td>
<td>OTHER:</td>
<td>Other:</td>
</tr>
<tr>
<td>PIPE BENTHIC GROWTH:</td>
<td></td>
<td>OTHER:</td>
<td>Single:</td>
</tr>
<tr>
<td>POOL QUALITY:</td>
<td></td>
<td>OTHER:</td>
<td>Circular</td>
</tr>
<tr>
<td>FOR FLOWING ONLY</td>
<td></td>
<td>OTHER:</td>
<td>Double:</td>
</tr>
<tr>
<td>COLOR:</td>
<td></td>
<td>OTHER:</td>
<td>Elliptical</td>
</tr>
<tr>
<td>TURBIDITY:</td>
<td></td>
<td>OTHER:</td>
<td>Trapezoid</td>
</tr>
<tr>
<td>FLOATABLES:</td>
<td></td>
<td>OTHER:</td>
<td>Parabolic</td>
</tr>
<tr>
<td>OTHER CONCERNS:</td>
<td></td>
<td>OTHER:</td>
<td>Width (Top):</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OTHER:</td>
<td>Depth:</td>
</tr>
<tr>
<td>POTENTIAL RESTORATION CANDIDATE</td>
<td></td>
<td>OTHER:</td>
<td>Width (Bottom):</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OTHER:</td>
<td>Other:</td>
</tr>
<tr>
<td>If yes for daylighting:</td>
<td>Discharge investigation</td>
<td>Stream daylighting</td>
<td>Local stream repair/outfall stabilization</td>
</tr>
<tr>
<td></td>
<td>Storm water retrofit</td>
<td>Other:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Length of vegetative cover from outfall:</td>
<td>Type of existing vegetation:</td>
<td>Slope:</td>
</tr>
<tr>
<td>If yes for stormwater:</td>
<td>Is stormwater currently controlled?</td>
<td>Land Use description:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>Not investigated</td>
</tr>
<tr>
<td>OUTFALL SEVERITY: (circle #)</td>
<td>Heavy discharge with a distinct color and/or a strong smell. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.</td>
<td>Small discharge; flow mostly clear and odorless. If the discharge has a color and/or odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor/localized.</td>
<td>Outfall does not have dry weather discharge, staining, or appearance of causing any erosion problems.</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>SKETCH/NOTES:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>REPORTED TO AUTHORITIES:</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>
Impacted Buffer

| WATERSHED/SUBSHED: | TOB |
| Survey Reach: | Q |
| Site ID: (Condition #:) | IB-5 |

**Reason Inadequate:**
- Lack of vegetation
- Too narrow
- Widespread invasive plants
- Recently planted
- Other:

**Land Use:**
- (Facing downstream) LT Bank
- RT Bank
- Private
- Institutional
- Golf Course
- Park
- Other Public
- Athletic fields

**Dominant Land Cover:**
- Paved
- Bare ground
- Turf lawn
- Tall grass
- Shrub/scrub
- Trees
- Other:

**Invasive Plants:**
- None
- Rare
- Partial coverage
- Extensive coverage
- Unknown

**Stream Shade Provided?**
- None
- Partial
- Full

**Potential Restoration Candidate**
- Active reforestation
- Greenway design
- Natural regeneration
- Invasives removal
- No
- Other:

**Restorable Area**
- Length (ft): LT Bank 850, RT Bank 280
- Width (ft): 

**Reforestation Potential:**
- Impacted area on public land where the riparian area does not appear to be used for any specific purpose; plenty of area available for planting
- Impacted area on either public or private land that is presently used for a specific purpose; available area for planting adequate
- Impacted area on private land where road, building encroachment or other feature significantly limits available area for planting

**Potential Conflicts with Reforestation**
- Widespread invasive plants
- Potential contamination
- Lack of sun
- Poor/unsafe access to site
- Existing impervious cover
- Severe animal impacts (deer, beaver)
- Other:

**Notes:**

0. Impacted LB due to Athletic fields / main lawn up to edge of brook.

LB Length of Impact: ~850 meters

RB Length of Impact: ~280 meters.
**Watershed/Subshed:** 10B  
**Date:** 11/30/09  
**Survey Reach ID:** 60  
**Time:** AM/PM  
**Photo ID:** (Camera-Pic #)  
**Assessed By:** CMG  
**Site ID:** (Condition #) SC- A  
**Lat:** 41° 49.75"  
**Long:** 72° 45.05"  
**Lmk:**  
**Gps (Unit ID):**  

**Type:**  
- [ ] Road Crossing  
- [ ] Railroad Crossing  
- [ ] Manmade Dam  
- [ ] Beaver Dam  
- [ ] Geological Formation  
- [ ] Other:  

**Shape:**  
- [ ] Arch  
- [ ] Bottomless  
- [ ] Box  
- [ ] Elliptical  
- [ ] Circular  
- [ ] Other:  

**For Road/Railroad Crossings Only:**  

**Condition:**  
- [ ] Cracking/chipping/corrosion  
- [ ] Sediment deposition  
- [ ] Other (describe):  

**Potential Restoration Candidate:**  
- [ ] Fish barrier removal  
- [ ] Culvert repair/replacement  
- [ ] Upstream storage retrofit  
- [ ] Local stream repair  
- [ ] Other:  

**Is SC acting as Grade Control:**  
- [ ] No  
- [ ] Yes  
- [ ] Unknown  

**Blocksage Severity:** (Circle #)  

- [ ] Total  
- [ ] Partial  
- [ ] Temporary  
- [ ] Unknown  

**Extent of Physical Blockage:**  
- [ ] Total  
- [ ] Partial  
- [ ] Temporary  
- [ ] Unknown  

**If yes for fish barrier:**  

**Cause:**  
- [ ] Drop too high  
- [ ] Water Drop: (in)  
- [ ] Flow too shallow  
- [ ] Water Depth: (in)  
- [ ] Other:  

**Blockage Severity:**  

- [ ] 5  
- [ ] 4  
- [ ] 3  
- [ ] 2  
- [ ] 1  

**Notes/Sketch:**
**Watershed/Subshed:** 708  
**Survey Reach ID:** 60  
**Time:** 5:30 AM  
**Photo ID:** (Camera-Pic #) N/A  
**Assessed By:** CM/SC  
**Site ID:** (Condition #) SC- B  
**Lat:** 41° 49' 42"  
**Long:** 72° 45' 2"  
**LMK:**  
**GPS (Unit ID):**  

**Type:** [ ] Road Crossing  
[ ] Railroad Crossing  
[ ] Mannmade Dam  
[ ] Beaver Dam  
[ ] Geological Formation  
[ ] Other:  

**Shape:**  
[ ] Arch  
[ ] Box  
[ ] Elliptical  
[ ] Circular  
[ ] Other:  

**# Barrels:**  
[ ] Single  
[ ] Double  
[ ] Triple  
[ ] Other:  

**Material:**  
[ ] Concrete  
[ ] Metal  
[ ] Other:  

**Alignment:**  
[ ] Flow-aligned  
[ ] Not flow-aligned  
[ ] Do not know  

**Dimensions:** (if variable, sketch)  
- Barrel diameter: 40"  
- Height: ______ (ft)  
- Culvert length: ______ (ft)  
- Width: ______ (ft)  
- Roadway elevation: ______ (ft)  

**Potential Restoration Candidate:**  
[ ] Fish barrier removal  
[ ] Culvert repair/replacement  
[ ] Upstream storage retrofit  
[ ] Local stream repair  
[ ] Other:  

**Is SC acting as grade control:**  
[ ] No  
[ ] Yes  
[ ] Unknown  

**Extent of Physical Blockage:**  
[ ] Total  
[ ] Partial  
[ ] Temporary  
[ ] Unknown  

**Cause:**  
[ ] Drop too high  
[ ] Water Drop: ______ (in)  
[ ] Flow too shallow  
[ ] Water Depth: ______ (in)  
[ ] Other:  

**Blockage Severity:** (circle #)  
- A structure such as a dam or road culvert on a 3rd order or greater stream blocking the upstream movement of anadromous fish; no fish passage device present.  
- A total fish blockage on a tributary that would isolate a significant reach of stream, or partial blockage that may interfere with the migration of anadromous fish.  
- A temporary barrier such as a beaver dam or a blockage at the very head of a stream with very little viable fish habitat above it; natural barriers such as waterfalls.  

**Notes/Sketch:**
**Reach Level Assessment**

<table>
<thead>
<tr>
<th>Survey Reach ID: 8</th>
<th>Wtrsh/Subsh: TDB</th>
<th>Date: 1/30/07</th>
<th>Assessed by: CMW/89</th>
</tr>
</thead>
</table>

**Start**
- Time: 2:30 AM
- LMK: 49° 49' 57" N 72° 44' 57" W
- Description: Medicah Dr

**End**
- Time: 3:00 AM
- LMK: 49° 49' 28" N 72° 45' 05" W
- Description: Tideway input (x) (Site C)

**Rain in Last 24 Hours**
- None

**Present Conditions**
- None
- Clear

**Surrounding Land Use**
- Industrial
- Golf course
- Urban Residential
- Suburban/Residential
- Forested
- Institutional

**Average Conditions (check applicable)**

<table>
<thead>
<tr>
<th>Base Flow As %</th>
<th>0-25%</th>
<th>25-50%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Channel Width</td>
<td>50-75%</td>
<td>75-100%</td>
</tr>
</tbody>
</table>

**Dominant Substrate**
- Silts/clays (fine or slick)
- Sand (gritty)
- Gravel (0.1-2.5"
- Cobble (2.5-10"
- Boulder (>10"
- Bed rock

**Water Clarity**
- Clear
- Turbid (suspended matter)
- Stained (clear, naturally colored)
- Opaque (milky)
- Other (chemicals, dyes)

**Aquatic Plants in Stream**
- Attached: None, Some, Lots
- Floating: None, Some, Lots

**Wildlife in or Around Stream**
- Fish
- Beaver
- Deer
- Snails
- Other

**Stream Shading**
- Mostly shaded (>75% coverage)
- Halfway (>50%)
- Partially shaded (>25%)
- Unshaded (<25%)

**Channel Dynamics**
- Downcutting
- Widening
- Headcutting
- Bank scour
- Bank failure
- Aggrading
- Slope failure
- Sed. deposition
- Channelized

<table>
<thead>
<tr>
<th>Channel Height: River Bank</th>
<th>20&quot; (ft)</th>
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<tr>
<td>River Bank Width: Bottom</td>
<td>10&quot; (ft)</td>
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**Reach Accessibility**
- Good: Open area in public ownership, sufficient room to stockpile materials, easy stream channel access for heavy equipment using existing roads or trails.
- Fair: Forested or developed area adjacent to stream. Access requires tree removal or impact to landscaped areas. Stockpile areas small or distant from stream.
- Difficult: Must cross wetland, steep slope, or sensitive areas to get to stream. Few areas to stockpile available and/or located a great distance from stream. Specialized heavy equipment required.

**Reach Sketch and Site Impact Tracking**
- Simple planar sketch of survey reach. Track locations and IDs for all site impacts within the survey reach (OT: ER, IB, SC, UT, TR, MI) as well as any additional features deemed appropriate. Indicate direction of flow.

**Notes:** (biggest problem you see in survey reach)
- Impacted buffer due to residential roads along Lot Bank in particular

**Reported to Authorities**
- Yes

---

Labeled on the diagram:
- TDB-10
- TDS-8
- Meadow Lane
- Mapler AVE
## Overall Stream Condition

<table>
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<tr>
<th>In-Stream Habitat</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
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<tbody>
<tr>
<td>(May modify criteria based on appropriate habitat regime)</td>
<td>Greater than 70% of substrate favorable for epiphytic colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not now fall and not transient).</td>
<td>40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of fallow, but not yet prepared for colonization (may rate at high end of scale).</td>
<td>20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.</td>
<td>Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.</td>
</tr>
<tr>
<td>Left Bank 10</td>
<td>19</td>
<td>18</td>
<td>17</td>
<td>16</td>
</tr>
<tr>
<td>Right Bank 10</td>
<td>19</td>
<td>18</td>
<td>17</td>
<td>16</td>
</tr>
</tbody>
</table>

## Vegetative Protection

(score each bank, determine sides by facing downstream)

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<td>76-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant substrate height remaining.</td>
<td>50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant substrate height remaining.</td>
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</tr>
<tr>
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<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Right Bank 10</td>
<td>9</td>
<td>8</td>
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</table>

## Bank Erosion

(facing downstream)

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<td>Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems.</td>
<td>Grade and width stable; isolated areas of bank failure/erosion; likely caused by a pipe outfall, local scour, impaired riparian vegetation or adjacent use.</td>
<td>Past downcutting evident, active stream widening, banks actively eroding at a moderate rate; no threat to property or infrastructure.</td>
<td>Active downcutting; tall banks on both sides of the stream eroding at a fast rate; erosion contributing significant amount of sediment to stream; obvious threat to property or infrastructure.</td>
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<tr>
<th>Floodplain Vegetation</th>
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<tbody>
<tr>
<td>Even mix of wetland and non-wetland habitats, evidence of standing/ponded water.</td>
<td>Even mix of wetland and non-wetland habitats, no evidence of standing/ponded water.</td>
<td>Either all wetland or all non-wetland habitat, no evidence of standing/ponded water.</td>
<td>Either all wetland or all non-wetland habitat, no evidence of standing/ponded water.</td>
<td></td>
</tr>
<tr>
<td>Left Bank 10</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Right Bank 10</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Floodplain Encroachment</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>No evidence of floodplain encroachment in the form of fill material, land development, or manmade structures.</td>
<td>Minor floodplain encroachment in the form of fill material, land development, or manmade structures, but not effect floodplain function.</td>
<td>Moderate floodplain encroachment in the form of filling, land development, or manmade structures, some effect on floodplain function.</td>
<td>Significant floodplain encroachment (i.e. fill material, land development, or manmade structures). Significant effect on floodplain function.</td>
<td></td>
</tr>
<tr>
<td>Left Bank 10</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Right Bank 10</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
</tr>
</tbody>
</table>

Sub Total In-stream: 27 / 80 + Buffer/Floodplain: 27 / 80 = Total Survey Reach 54 / 160
### Stream Crossing

**Watershed/Subshed:** TBD  
**Survey Reach ID:** 8  
**Site ID:** (Condition) SC-  
**Date:** 1/30/20  
**Time:** 2:40 AM  
**Photo ID:** (Camera-Pic #) 14200/#001_002  
**Assessed By:** CMT + SG  
**Lat:** 41°49'28"  
**Long:** 73°45'00"  
**LMK:**  
**GPS (Unit ID):**

<table>
<thead>
<tr>
<th>Type</th>
<th>Road Crossing</th>
<th>Railroad Crossing</th>
<th>Manmade Dam</th>
<th>Beaver Dam</th>
<th>Geological Formation</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shape</td>
<td>Arch</td>
<td>Bottomless</td>
<td>Box</td>
<td>Elliptical</td>
<td>Circular</td>
<td>Other</td>
</tr>
<tr>
<td>Material</td>
<td>Concrete</td>
<td>Metal</td>
<td>Other</td>
<td>Flow-aligned</td>
<td>Not flow-aligned</td>
<td>Do not know</td>
</tr>
<tr>
<td>Alignment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dimensions</td>
<td>Barrel diameter: 4'</td>
<td>Height:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Culvert length:</td>
<td>Width:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Roadway elevation:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Potential Restoration Candidate**  
- Fish barrier removal  
- Culvert repair/replacement  
- Upstream storage retrofit  
- Local stream repair  
- Other: no

**Is SC Acting as Grade Control**  
- No  
- Yes  
- Unknown

**Extent of Physical Blockage:**  
- Total  
- Partial  
- Temporary  
- Unknown  
- Cause:  
  - Drop too high  
  - Water Drop: ____ (in)  
  - Flow too shallow  
  - Water Depth: ____ (in)  
- Other:

**Blockage Severity:** (circle #)  
- A structure such as a dam or road culvert on a 3rd order or greater stream blocking the upstream movement of anadromous fish; no fish passage device present.  
- A total fish blockage on a tributary that would isolate a significant reach of stream, or partial blockage that may interfere with the migration of anadromous fish.  
- A temporary barrier such as a beaver dam or a blockage at the very head of a stream with very little viable fish habitat above it; natural barriers such as waterfalls.

**Notes/Sketch:**  
Rip-rap along both banks downstream of culvert  
Thin treeless buffer on RB.
**WATERSHED/SUBSHED:** T08  
**DATE:** 1/30/09  
**ASSESSED BY:**  OMB  
**PHOTO ID:** (Camera-Pic #) 4920 # 001, 003  
**SITE ID:**  
**SITE #:**  
**START**  
**LAT:** 41°49'28"  
**LONG:** 72°4'00"  
**LMK:**  
**END**  
**LAT:**  
**LONG:**  
**LMK:**  
**IMPACTED BANK:**  
☐ LT  ☑ RT  ☐ Both  
**REASON INADEQUATE:**  
☑ Lack of vegetation  ☐ Too narrow  ☐ Widespread invasive plants  
☐ Recently planted  ☑ Other: rip-rap  
**LAND USE:**  
☐ Private  ☐ Institutional  ☐ Golf Course  ☐ Park  ☐ Other Public  
☐ RT Bank  ☐  
**DOMINANT**  
☐ Paved  ☐ Bare ground  ☐ Turf/lawn  ☐ Tall grass  ☐ Shrub/scrub  ☐ Trees  ☐ Other:  
☐ LT Bank  ☐  
☐ RT Bank  ☐  
**INVASIVE PLANTS:**  
☐ None  ☐ Rare  ☐ Partial coverage  ☐ Extensive coverage  ☐ unknown  
**STREAM SHADE PROVIDED?**  
☐ None  ☐ Partial  ☑ Full  ☐ Wetlands Present?  
☐ No  ☐ Yes  ☐ Unknown  
**POTENTIAL RESTORATION CANDIDATE**  
☐ Active reforestation  ☐ Greenway design  ☐ Natural regeneration  ☐ Invasives removal  
☐ no  ☐ Other:  
**RESTORABLE AREA**  
<table>
<thead>
<tr>
<th>☐ LT Bank</th>
<th>☐ RT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length (ft):</td>
<td>70</td>
</tr>
</tbody>
</table>

**REFORESTATION POTENTIAL:**  
(Circle #)  
<table>
<thead>
<tr>
<th>☐ Impacted area on public land where the riparian area does not appear to be used for any specific purpose; plenty of area available for planting</th>
<th>☐ Impacted area on either public or private land that is presently used for a specific purpose; available area for planting adequate</th>
<th>☐ Impacted area on private land where road, building encroachment or other feature significantly limits available area for planting</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

**POTENTIAL CONFLICTS WITH REFORESTATION**  
☐ Widespread invasive plants  ☐ Potential contamination  ☐ Lack of sun  
☐ Poor/unsafe access to site  ☐ Existing impervious cover  ☐ Severe animal impacts (deer, beaver)  ☐ Other:  

**NOTES:**  
140' of rip-rap on both banks downstream of culvert  
LB here is 100' with a narrow vegetated buffer (private residence). The rd is forested here.
**Survey Reach ID:** TDB, Reach 12

**Date:** 9/21/09

**Wtrsh/Subshd:** TDB

**ASSESS BY:** RG CM

**START**
- **Time:** 9:30 AM
- **Lat:** 41° 48.23' N
- **Long:** 72° 45.10' W
- **Description:** "200' south of I-80" 2nd stream bank

**END**
- **Time:** 9:50 AM
- **Lat:** 41° 48.37' N
- **Long:** 72° 45.04' W
- **Description:** "Bifurcation junction on right bank"

**Rain in Last 24 Hours:**
- None

**Present Conditions:**
- Heavy rain
- Steady rain
- Intermittent
- Clear

**Surrounding Land Use:**
- Industrial
- Commercial
- Urban/Residential
- Suburban/Residential
- Forested
- Institutional
- Other

**Average Conditions (check applicable):**

<table>
<thead>
<tr>
<th>Base Flow as %</th>
<th>Channel Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-25%</td>
<td>25-50%</td>
</tr>
<tr>
<td>50%-75%</td>
<td>75%-100%</td>
</tr>
</tbody>
</table>

**Dominant Substrate:**
- Silt/clay (fine or slick)
- Cobble (1-5"
- Boulder (>10"
- Sand (0.1-2.5"
- Bed rock

**Water Clarity:**
- Clear
- Turbid (suspended matter)
- Stained (clear, naturally colored)
- Opaque (milky)
- Other (chemicals, dye)

**Aquatic Plants in Stream:**
- Attached: None
- Some
- Lots

**Wildlife in or Around Stream:**
- Evidence of
  - Fish
  - Beaver
  - Deer
  - Snails
  - Other

**Reach Sketch and Site Impact Tracking:**
- Simple planar sketch of survey reach. Track locations and IDs for all site impacts within the survey reach (OT, ER, IBSC, UT, TR, MI) as well as any additional features deemed appropriate. Indicate direction of flow.

**Reach Accessibility:**
- Good: Open area in public ownership, sufficient room to stockpile materials, easy stream channel access or heavy equipment using existing roads or trails.
- Difficult: Must cross wetland, steep slope, or sensitive areas to get to stream. Few areas to stockpile available and/or located a great distance from stream. Specialized heavy equipment required.

**Notes:** ( Biggest problem you see in survey reach )
- Golf course impact - chemical / thermal loading + increase in trash/debris (golf balls + litter). Otherwise this reach is in good overall condition.

**Reported to Authorities:** Yes

**REACH ACCESSIBILITY**
- Width: 30' (ft)
- Angle: 45" (ft)

**DIAGRAM**
- [Diagram showing Reach 12 with various features and impacts not fully transcribed]

---

### AVERAGE CONDITIONS (check applicable)

- **Base Flow as %**: 0-25%  
  - Channel Width: 25-50%  
    - 75%-100%

### DOMINANT SUBSTRATE
- Silt/clay (fine or slick)  
  - Cobble (2.5-5")  
  - Boulder (>10")  
  - Sand (0.1-2.5")  
  - Bed rock

### WATER CLARITY
- Clear  
  - Turbid (suspended matter)  
  - Stained (clear, naturally colored)  
  - Opaque (milky)  
  - Other (chemicals, dye)

### AQUATIC PLANTS IN STREAM
- Attached: None  
  - Some  
  - Lots

### WILDLIFE IN OR AROUND STREAM
- Evidence of  
  - Fish  
  - Beaver  
  - Deer  
  - Snails  
  - Other

### REACH ACCESSIBILITY
- Good: Open area in public ownership, sufficient room to stockpile materials, easy stream channel access or heavy equipment using existing roads or trails.
- Difficult: Must cross wetland, steep slope, or sensitive areas to get to stream. Few areas to stockpile available and/or located a great distance from stream. Specialized heavy equipment required.

---

**NOTES:** (Biggest problem you see in survey reach)
- Golf course impact - chemical / thermal loading + increase in trash/debris (golf balls + litter). Otherwise this reach is in good overall condition.
## Over-all Stream Condition

<table>
<thead>
<tr>
<th>In-stream Habitat</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greater than 70% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, cobble or other stable habitat and at stage to allow full colonization potential (i.e., logsnags that are not new fall and not transient).</td>
<td>40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of new fall, but not yet prepared for colonization (may rate at high end of scale).</td>
<td>20-40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.</td>
<td>Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vegetative Protection</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.</td>
<td>70-60% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant storable height remaining.</td>
<td>50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant storable height remaining.</td>
<td>Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average storable height.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bank Erosion</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems.</td>
<td>Grade and width stable; isolated areas of bank failure/erosion; likely caused by a pipe outfall, local scour, impaired riparian vegetation or adjacent use.</td>
<td>Past downcutting evident, active stream widening, banks actively eroding at a moderate rate; no threat to property or infrastructure.</td>
<td>Active downcutting; tall banks on both sides of the stream eroding at a fast rate; erosion contributing significant amount of sediment to stream, obvious threat to property or infrastructure.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Floodplain Connection</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched.</td>
<td>High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched.</td>
<td>High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched.</td>
<td></td>
</tr>
</tbody>
</table>

## Overall Buffer and Floodplain Condition

<table>
<thead>
<tr>
<th>Vegetated Buffer</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width of buffer zone &gt;30 feet; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, crops) have not impacted zone.</td>
<td>Width of buffer zone 25-30 feet; human activities have impacted zone only minimally.</td>
<td>Width of buffer zone 10-25 feet; human activities have impacted zone a great deal.</td>
<td>Width of buffer zone &lt;10 feet; little or no riparian vegetation due to human activities.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Floodplain Vegetation</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Predominant floodplain vegetation type is mature forest</td>
<td>Predominant floodplain vegetation type is young forest</td>
<td>Predominant floodplain vegetation type is shrub or old field</td>
<td>Predominant floodplain vegetation type is turf or crop land</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Floodplain Habitat</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Even mix of wetland and non-wetland habitats, evidence of standing/ponded water</td>
<td>Even mix of wetland and non-wetland habitats, no evidence of standing/ponded water</td>
<td>Either all wetland or all non-wetland habitat, evidence of standing/ponded water</td>
<td>Either all wetland or all non-wetland habitat, no evidence of standing/ponded water</td>
<td></td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>Floodplain Encroachment</th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>No evidence of floodplain encroachment in the form of fill material, land development, or manmade structures</td>
<td>Minor floodplain encroachment in the form of fill material, land development, or manmade structures, but not effecting floodplain function</td>
<td>Moderate floodplain encroachment in the form of fill material, land development, or manmade structures, some effect on floodplain function</td>
<td>Significant floodplain encroachment (i.e., fill material, land development, or man-made structures), significant effect on floodplain function</td>
<td></td>
</tr>
</tbody>
</table>

Sub Total In-stream: 67 / 80 + Buffer/Floodplain: 47 / 80 = Total Survey Reach 114 / 160
**Stream Crossing**

**Watershed/Subshed:** 106

**Survey Reach ID:** 12

**Site ID:** SCAM

**Coordinates:**
- **LAT:** 41° 48.23’
- **LONG:** 39° 45.10’

**Material:**
- Material: Concrete
- Alignment: Flow-aligned
- Dimensions: Barrel diameter: 10’ (ft)
- Culvert length: 60’ (ft)
- Roadway elevation: 

**Potential Restoration Candidate:**
- Fish barrier removal
- Culvert repair/replacement
- Local stream repair
- Other

**Is SC acting as grade control:** No

**Extent of Physical Blockage:**
- Total
- Partial
- Temporary
- Unknown

**Cause:**
- Drop too high
- Flow too shallow
- Other: Water Depth: [ ]

**Blockage Severity:**
- A structure such as a dam on a road culvert on a 3rd order or greater stream blocking the upstream movement of anadromous fish, no fish passage device present.
- A total fish blockage on a tributary that would isolate a significant reach of stream, or partial blockage that may interfere with the migration of anadromous fish.
- A temporary barrier such as a beaver dam or a blockage at the very head of a stream with very little viable fish habitat above it; natural barriers such as waterfalls.

**Notes/Sketch:**
- Can see light through culvert + sufficient for fish and wildlife passage. Great blue heron here.
Storm Water Outfalls

WATERSHED/SUBSHED: TDB

SURVEY REACH ID: 19
TIME: 7:50 PM

SITE ID (Condition #): OT
LAT: 39° 43.0' N
LNG: 73° 45.1' W

BANK: ALT RT Head
FLOW: None Trickle

TYPE: Closed pipe

CONDITION: No

ODOR: Gas

DEPOSITS/STAINS: None

VEGETATION: None

PIPE BENTHIC GROWTH: None

FLOWING ONLY: Color: Clear

TURBIDITY: None

FLOATABLES: None

EXCESS TRASH: No

DUMPING: No

EXCESSIVE SEDIMENTATION: No

NEEDS REGULAR MAINTENANCE: No

STORM WATER RETROFIT: No

LOCAL STREAM REPAIR/OUTFALL STABILIZATION: No

OUTFALL SEVERITY:

Heavy discharge with a distinct color and odor. The amount of discharge is significant compared to the amount of normal flow in receiving stream; discharge appears to be having a significant impact downstream.

Small discharge; flow mostly clear and odorless. If the discharge has a color and odor, the amount of discharge is very small compared to the stream's base flow and any impact appears to be minor/localized.

Outfall does not have dry weather discharge; staining; or appearance of causing any erosion problems.

OUTFALL SEVERITY:

(circle #)

5 4 3 2 1

REPORTED TO AUTHORITIES: Yes No
### Impacted Buffer

**Watershed/Subshed:** 10B  
**Survey Reach:** 12  
**Date:** 1/01/09  
**Assessed By:** CM/CE  
**Photo ID:** (Camera-Pic #) 4001 #007  
**Site ID:** (Condition #)  
**Start Lat:** 41° 48' 32"  
**Start Long:** 73° 45' 07"  
**End Lat:**  
**End Long:**  
**Impacted Bank:**  
- [ ] LT  
- [ ] RT  
- [ ] Both  
**Reason Inadequate:**  
- [ ] Lack of vegetation  
- [ ] Too narrow  
- [ ] Widespread invasive plants  
- [ ] Recently planted  
- [ ] Other: LIP-RAP  
**Land Use:**  
- [ ] Private  
- [ ] Institutional  
- [ ] Golf Course  
- [ ] Park  
- [ ] Other Public  
- [ ] Facing downstream  
- [ ] LT Bank  
- [ ] RT Bank  
**Dominant Land Cover:**  
- [ ] Paved  
- [ ] Bare ground  
- [ ] Turf/lawn  
- [ ] Tall grass  
- [ ] Shrub/scrub  
- [ ] Trees  
- [ ] Other  
**Invasive Plants:**  
- [ ] None  
- [ ] Rare  
- [ ] Partial coverage  
- [ ] Extensive coverage  
- [ ] Unknown  
**Stream Shade Provided?**  
- [ ] None  
- [ ] Partial  
- [ ] Full  
**Wetlands Present?**  
- [ ] No  
- [ ] Yes  
- [ ] Unknown  
**Potential Restoration Candidate**  
- [ ] Active reforestation  
- [ ] Greenway design  
- [ ] Natural regeneration  
- [ ] Invasives removal  
- [ ] Other:  
**Restorable Area**  
- [ ] LT Bank  
- [ ] RT  
**Reforestation Potential:**  
- [ ] Circle #  
**Potential Conflicts with Reforestation**  
- [ ] Widespread invasive plants  
- [ ] Potential contamination  
- [ ] Lack of sun  
- [ ] Poor/unsafe access to site  
- [ ] Existing impervious cover  
- [ ] Severe animal impacts (deer, beaver)  
- [ ] Other:  

**Notes:**  
1. Pasture (good quality habitat) but thin canopy 2. Beginning  
2. US impact due to RLP-RA-3' hi x 50' lany 41°49'32" 73°45'07"
**Survey Reach ID:** TBC 14  
**Wtrsh/Sh/Subsid:** TUMBLEDOWN ALL  
**Date:** 12/1/97  
**Assessed By:** SG+CM

**Start Time:** 9:30 AM  
**Lat:** 41° 48.27'  
**Long:** 72° 45.04'  
**Description:** CONFLUENCE

**End Time:** 10:30 AM  
**Lat:** 41° 48.54'  
**Long:** 72° 45.06'  
**Description:** GOLF COURSE POND

**Rain in Last 24 Hours:**  
- None
- Intermittent
- Trace
- Heavy rain
- Steady rain

**Present Conditions:**  
- Clear
- Trace
- Overcast
- Partly cloudy

**Surrounding Land Use:**  
- Industrial
- Commercial
- Golf course
- Park
- Urban/Residential
- Suburban/Res
- Forested
- Institutional
- Crop
- Pasture
- Other

---

**Average Conditions** (check applicable)

- **Base Flow as %:**  
  - 0-25%
  - 25-50%
  - 50-75%
  - 75-100%

- **Channel Width:**  
  - 25-50%
  - 75-100%

**Dominant Substrate:**  
- Silt/clay (fine or slick)
- Cobble (2.5-10")
- Boulder (>10")
- Sand (gritty)
- Bed rock
- Gravel (0.1-2.5")

**Water Clarity:**  
- Clear
- Turbid (suspended matter)
- Stained (clear, naturally colored)
- Opaque (milky)
- Other (chemicals, dyes)

**Aquatic Plants in Stream:**  
- Attached: None
- Floating: None

**Wildlife In or Around Stream:**  
(Evidence of)
- Fish
- Beaver
- Deer
- Snails
- Other: MUSSEL, HERON
- Other birds

**Stream Shading (water surface):**  
- Mostly shaded (75% coverage)
- Halfway (50%)
- Partially shaded (25%)
- Unshaded (<25%)

**Channel Dynamics:**  
- Downcutting
- Widening
- Headcutting
- Aggrading
- Sed. deposition
- Bank scours
- Bank failure
- Slope failure
- Channelized

**Channel Dimensions:**  
- Height: LT Bank 30" (R)
- RT Bank 22.5" (R)
- Width: Bottom 38" (R)
- Top

---

**Reach Accessibility**

- Good: Open area in public ownership, sufficient room to stockpile materials, easy stream channel access for heavy equipment using existing roads or trails.
- Fair: Forested or developed area adjacent to stream. Access requires tree removal or impact to landscaped areas. Stockpile areas small or distant from stream.
- Difficult: Most cross wetland, steep slope, or sensitive areas to get to stream. Few areas to stockpile available and/or located a great distance from stream. Specialized heavy equipment required.

**Notes:** (biggest problem you see in survey reach) GOLF COURSE RUNOFF + RIPRAP

**Reported to Authorities:**  
- Yes
- No
<table>
<thead>
<tr>
<th><strong>OVERALL STREAM CONDITION</strong></th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IN-STREAM HABITAT</strong> (May modify criteria based on appropriate habitat regime)</td>
<td>Greater than 70% of substrate favorable for epifaunal colonization and fish cover; mix of snags, submerged logs, undercut banks, bobbles or other stable habitat and at stage to allow full colonization potential (i.e., logs/snags that are not new fall and not transient).</td>
<td>40-70% mix of stable habitat; well-suited for full colonization potential; adequate habitat for maintenance of populations; presence of additional substrate in the form of newfall, but not yet prepared for colonization (may rate at high end of scale).</td>
<td>20.40% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.</td>
<td>Less than 20% stable habitat; lack of habitat is obvious; substrate unstable or lacking.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>20 19 18 17 16</td>
<td>15 14 13 12 11</td>
<td>10 9 8 7 6</td>
<td>5 4 3 2 1 0</td>
</tr>
</tbody>
</table>

| **VEGETATIVE PROTECTION** (score each bank, determine sides by facing downstream) | More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytas; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally. | 70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining. | 50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining. | Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height. |
| Left Bank | 10 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| Right Bank | 13 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |

| **BANK EROSION** (facing downstream) | Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. | Grade and width stable; isolated areas of bank failure erosion; likely caused by a pipe outfall, local scour, impaired riparian vegetation or adjacent use. | Past downcutting evident, active stream widening, banks actively eroding at a moderate rate; no threat to property or infrastructure. | Active downcutting; tell banks on both sides of the stream eroding at a fast rate; erosion contributing significant amount of sediment to stream; obvious threat to property or infrastructure. |
| Left Bank | 10 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| Right Bank | 13 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |

| **FLOODPLAIN CONNECTION** | High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched. | High flows (greater than bankfull) able to enter floodplain. Stream not deeply entrenched. | High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched. | High flows (greater than bankfull) not able to enter floodplain. Stream deeply entrenched. |
| | | | | |
| | 20 19 18 17 16 | 15 14 13 12 11 | 10 9 8 7 6 | 5 4 3 2 1 0 |

<table>
<thead>
<tr>
<th><strong>OVERALL BUFFER AND FLOODPLAIN CONDITION</strong></th>
<th>Optimal</th>
<th>Suboptimal</th>
<th>Marginal</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VEGETATED BUFFER WIDTH</strong></td>
<td>Width of buffer zone &gt;50 feet; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, crops) have not impacted zone.</td>
<td>Width of buffer zone 25-50 feet; human activities have impacted zone only minimally.</td>
<td>Width of buffer zone 10-25 feet; human activities have impacted zone a great deal.</td>
<td>Width of buffer zone &lt;10 feet; little or no riparian vegetation due to human activities.</td>
</tr>
<tr>
<td>Left Bank</td>
<td>10</td>
<td>8</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Right Bank</td>
<td>13</td>
<td>9</td>
<td>8</td>
<td>7</td>
</tr>
</tbody>
</table>

| **FLOODPLAIN VEGETATION** | Predominant floodplain vegetation type is mature forest | Predominant floodplain vegetation type is young forest | Predominant floodplain vegetation type is shrub or old field | Predominant floodplain vegetation type is turf or crop land |
| | | | | |
| | 20 19 18 17 16 | 15 14 13 12 11 | 10 9 8 7 6 | 5 4 3 2 1 0 |

| **FLOODPLAIN HABITAT** | Even mix of wetland and non-wetland habitats, evidence of standing/ponded water | Even mix of wetland and non-wetland habitats, no evidence of standing/ponded water | Either all wetland or all non-wetland habitat, evidence of standing/ponded water | Either all wetland or all non-wetland habitat, no evidence of standing/ponded water |
| | | | | |
| | 20 19 18 17 16 | 15 14 13 12 11 | 10 9 8 7 6 | 5 4 3 2 1 0 |

| **FLOODPLAIN ENCROACHMENT** | No evidence of floodplain encroachment in the form of fill material, land development, or manmade structures | Minor floodplain encroachment in the form of fill material, land development, or manmade structures, but not affecting floodplain function | Moderate floodplain encroachment in the form of fill, land development, or manmade structures; some effect on floodplain function | Significant floodplain encroachment (i.e., fill material, land development, or man-made structures); Significant effect on floodplain function |
| | | | | |
| | 20 19 18 17 16 | 15 14 13 12 11 | 10 9 8 7 6 | 5 4 3 2 1 0 |

**Sub Total in-stream:** 75 /80 + **Buffer/Floodplain:** 65 /80 = **Total Survey Reach** 140 /160
Storm Water Outfalls

<table>
<thead>
<tr>
<th>WATERSHED/SUBSHED:</th>
<th>TDB</th>
</tr>
</thead>
<tbody>
<tr>
<td>SURVEY REACH ID:</td>
<td>14</td>
</tr>
<tr>
<td>TIME:</td>
<td>9:45 AM</td>
</tr>
<tr>
<td>PHOTO ID:</td>
<td>None</td>
</tr>
<tr>
<td>SITE ID (Condition #: OT):</td>
<td>OT-</td>
</tr>
<tr>
<td>LAT:</td>
<td>38°49'40&quot;</td>
</tr>
<tr>
<td>GPS:</td>
<td>(Unit ID)</td>
</tr>
</tbody>
</table>

**Flow:**
- None
- Moderate
- Substantial
- Other:

**Condition:**
- None
- Chip/Cracked
- Peeling Paint
- Corrosion
- Other:

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

**Deposits/Stains:**
- None
- Oily
- Flow Line
- Paint
- Other:

**Veggie Density:**
- None
- Normal
- Inhibited
- Excessive
- Other:

**Pipe Benthic Growth:**
- None
- Brown
- Orange
- Green
- Other:

**Pool Quality:**
- None
- Odors
- Colors
- Oils
- Suds
- Algae
- Floatables
- Other:

**Potential Restoration Candidate:**
- Discharge investigation
- Stream daylighting
- Local stream repair/outfall stabilization
- Storm water retrofit
- Other:

**For Flowing Only:**
- Color:
  - Clear
  - Brown
  - Grey
  - Yellow
  - Green
  - Orange
  - Red
  - Other:
- Turbidity:
  - None
  - Slight Cloudiness
  - Cloudy
  - Opaque
- Floatables:
  - None
  - Sewage (toilet paper, etc.)
  - Petroleum (oil sheen)
  - Other:

**Other Concerns:**
- Excess Trash (paper/plastic bags)
- Dumping (bulk)
- Excessive Sedimentation
- Needs Regular Maintenance
- Bank Erosion
- Other:

**For daylighting:**
- Length of vegetative cover from outfall: __________ ft
- Type of existing vegetation: __________
- Slope: __________

**For stormwater:**
- Is stormwater currently controlled?
  - Yes
  - No
  - Not investigated
- Land Use Description:
- Area available:

**Outfall Severity:**
| (circle #) |
| 5 |
| 4 |
| 3 |
| 2 |
| 1 |

**Sketch/Notes:**
- Stormwater input on RBD 41°48'43" / 73°45'02"
- "prev real input to nutrient loading. Since this stream reach is relatively open-approached AE nutrients can lead to vegetative excessive growth release"
**WATERSHED/SUBSHED:** 10B

**SURVEY REACH:** 14

**SITE ID:** 1M

**START LAT:** 41° 48’ 53” **LONG:** 72° 45’ 00” **LMK:**

**END LAT:** **LONG:** 0° 0” **LMK:**

**IMPACTED BANK:** ☒ LT □ RT □ Both

**REASON INADEQUATE:** ☒ Lack of vegetation □ Too narrow □ Widespread invasive plants □ Recently planted □ Other: Rip-rap, no woody veg

**LAND USE:**
- Private
- Institutional
- Golf Course
- Park
- Other Public

**DOMINANT LAND COVER:**
- LT Bank
- RT Bank

**LAND COVER:**
- Paved
- Bare ground
- Turf/lawn
- Tall grass
- Shrub/scrub
- Trees
- Other

**INVASIVE PLANTS:** □ None ☒ Rare □ Partial coverage □ Extensive coverage □ unknown

**STREAM SHADE PROVIDED:** □ None ☒ Partial □ Full

**WETLANDS PRESENT?** □ No □ Yes □ Unknown

**POTENTIAL RESTORATION CANDIDATE**
- ☐ Active reforestation ☒ Greenway design
- □ Natural regeneration □ Invasives removal
- □ Other:

**RESTORABLE AREA**
- LT BANK
- RT

**LENGTH (ft):** __________

**WIDTH (ft):** __________

**REFORESTATION POTENTIAL:**
- (Circle #)

**Impacted area on public land where the riparian area does not appear to be used for any specific purpose; plenty of area available for planting** 5

**Impacted area on either public or private land that is presently used for a specific purpose; available area for planting adequate** 4

**Impacted area on private land where road, building encroachment or other feature significantly limits available area for planting** 3

**Impacted area on private land where road, building encroachment or other feature significantly limits available area for planting** 2

**Impacted area on private land where road, building encroachment or other feature significantly limits available area for planting** 1

**POTENTIAL CONFLICTS WITH REFORESTATION**
- □ Widespread invasive plants
- □ Potential contamination
- □ Lack of sun
- □ Poor/unsafe access to site
- □ Existing impervious cover
- □ Severe animal impacts (deer, beaver)
- □ Other:

**NOTES:**
### Photo Inventory

**Project:** 08-3233  
**Group:** BC + CM  
**Camera:** OLYMPUS

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<th>Location ID</th>
<th>Photo #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>11/23/04</td>
<td>NBP-04</td>
<td>TOWNSHEA (PB300) END</td>
<td>7</td>
<td>AT CONfluence with tributary @ Bank</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>9 TYPICAL RIFFLE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10 RESIDENTIAL LAWNS, @ BANK</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>11 PIPE + Erosion, Northern Most Lawn</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UPSTREAM END</td>
<td>12</td>
<td>LOOKING UPSTREAM @ PORTAGE CROSSING</td>
</tr>
</tbody>
</table>

**COMMENTS:**
# Photo Inventory

(By Camera) ➔ By Stream Reach

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</tr>
</thead>
<tbody>
<tr>
<td>11/23/09</td>
<td>NBP-09</td>
<td>DOWNSTREAM END</td>
<td>31</td>
<td>OVERFLOW UNDER CAMPUS ROAD, ISLAND ON (B)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>32</td>
<td>TOP END OF ISLAND</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>33</td>
<td>OUTFLOW FROM CAMPUS PIPE, RIFFLE ON BANK</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>34</td>
<td>RIFFLE + PEDESTRIAN BRIDGE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>35</td>
<td>AT BEND ABOVE UPSTREAM CAMPUS BRIDGE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>36</td>
<td>UPSTREAM END OF BEDROCK SECTION</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>37</td>
<td>PIPE IN BEDROCK, (B) BANK</td>
</tr>
</tbody>
</table>

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</tr>
</thead>
<tbody>
<tr>
<td>11/23/09</td>
<td>NBP-10</td>
<td>NEAR DOWNSTREAM END</td>
<td>22</td>
<td>TREE + UMB DAM / ERODING BANK (SEE PB230021 FOR DOWNSTREAM END OF NBP-10+1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>23</td>
<td>ERODING (C) BANK</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>24</td>
<td>EROSION (C) + (D) BANK</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>25</td>
<td>DEBRIS DAM @ OR BOW / RIVER BREAKDOWN THROUGH OLD BANK @ TREES</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>26</td>
<td>DEBRIS IN RIVER DOWNSTREAM FROM PARKING</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>27</td>
<td>LOGGING STORMWATER OUTFALL AT S. END OF PARKING, ASPHALT + CONCRETE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>28</td>
<td>ANOTHER STORMWATER OUTFALL FROM PARKING</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NEAR UPSTREAM END</td>
<td>29</td>
<td>CALM STRETCH WITH PARKING IN BUFFER</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>30</td>
<td>CONDUIT CROSSING STREAM BELOW CAMPUS ROAD-A</td>
</tr>
</tbody>
</table>

Comments:
# Photo Inventory

(By Camera) \(\rightarrow\) By Stream Reach

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<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>11/23/09</td>
<td>NBP-11</td>
<td>Above Reach</td>
<td>GB2300-13</td>
<td>CONCRETE BANK ABOVE RR CULVERT</td>
</tr>
<tr>
<td></td>
<td></td>
<td>U/STREAM END</td>
<td>14</td>
<td>LOOKING UPSTREAM AT CULVERT</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>15</td>
<td>100' DOWNSTREAM FROM RR CULVENT</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>16</td>
<td>MASH + DEBRIS DAM (NOT COMMON)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>17</td>
<td>TYPICAL ENDED BANK ON C</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>18</td>
<td>CULVERT UNDER MAINU TWAIN DRIVE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>19</td>
<td>DOWNSTREAM M.T. DRIVE CULVENT, LOW WATER</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>20</td>
<td>MORE STABLE STRETCH BELOW M. TWAIN</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>21</td>
<td>SILT-LADEN WATER ENTERING NORTH BRANCH</td>
</tr>
</tbody>
</table>

**COMMENTS:**
# Photo Inventory

(Project) **08-3233**  
(Group) **BG + CM**  
(Camera) **OLYMPUS**

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<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/4/08</td>
<td>NBP-13</td>
<td><strong>DOWNSTREAM END</strong></td>
<td>71</td>
<td>WETLAND, POTENTIAL VERNAL POOL, <strong>R</strong> BANK</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>UPSTREAM END</strong></td>
<td>72</td>
<td>BROKEN PIPE &amp; COLLAPSE BEHIND HEADWALL, <strong>R</strong> BANK</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>73</td>
<td>STONE STRUCTURE (REMAINS OF CROSSING/DAM) &amp; RUFFLE, JUST BELOW RTE. 44 BRIDGE</td>
</tr>
</tbody>
</table>

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</tr>
</thead>
<tbody>
<tr>
<td>11/24/09</td>
<td>NBP-14</td>
<td>FAST BEND ABOVE DOWNSTREAM</td>
<td>PB800-58</td>
<td>ESTATE + LAWN, 1st BANK</td>
</tr>
<tr>
<td>59</td>
<td></td>
<td></td>
<td></td>
<td>2nd BANK ADOBED BY TREE, CHAIN LINK, FENCE, NON-CONTAMINATED SEEP (PIPE?)</td>
</tr>
<tr>
<td>60</td>
<td></td>
<td></td>
<td></td>
<td>STONE REMAINS OF DAM OR CROSSING</td>
</tr>
<tr>
<td>61</td>
<td></td>
<td></td>
<td></td>
<td>TWO 54&quot; BROKEN PIPES 1st BANK (LOOKING DOWNSTREAM)  NEAR END OF WOODLAND DR</td>
</tr>
<tr>
<td>62</td>
<td></td>
<td></td>
<td></td>
<td>ERODING BANKS ABOVE 54&quot; PIPES</td>
</tr>
<tr>
<td>63</td>
<td></td>
<td></td>
<td></td>
<td>TRASH TRAPPED AT DEBRIS DAM</td>
</tr>
<tr>
<td>64</td>
<td></td>
<td></td>
<td></td>
<td>OUTFALL 1st BANK (LOOKING UPSTREAM)</td>
</tr>
<tr>
<td>65</td>
<td></td>
<td></td>
<td></td>
<td>FALLEN TREES + ERODING 1st BANK</td>
</tr>
<tr>
<td>66</td>
<td></td>
<td></td>
<td></td>
<td>FALLING HEADWALL, 1st BANK</td>
</tr>
<tr>
<td>67</td>
<td></td>
<td></td>
<td></td>
<td>TYPICAL RIFFLE</td>
</tr>
<tr>
<td>68</td>
<td></td>
<td></td>
<td></td>
<td>DEN TREE, 1st BUFFER</td>
</tr>
<tr>
<td>70</td>
<td></td>
<td>CLOSE TO UPSTREAM END</td>
<td></td>
<td>ESTATE + LAWN, 2nd BANK, ABOVE STONE ABUTMENTS, ABANDONED BRIDGE</td>
</tr>
</tbody>
</table>

Comments:
# Photo Inventory

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</tr>
</thead>
<tbody>
<tr>
<td>11/24/09</td>
<td>NBP-15 Downstream END</td>
<td>0B2400-49</td>
<td>50</td>
<td>Stormwater outlet below parking lot, (L) bank</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>51</td>
<td>Residential estate retaining walls, (R) bank</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>52</td>
<td>Riparian wetland, (R) bank</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>53</td>
<td>Headwall + pipe, (L) bank</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>54</td>
<td>Old slab + erosion, (R) bank</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>55</td>
<td>Eroded swale w/concrete, (L) bank</td>
</tr>
<tr>
<td></td>
<td>Upstream END</td>
<td></td>
<td>56</td>
<td>Wetlands + tributary (R) bank</td>
</tr>
<tr>
<td></td>
<td>Upstream END</td>
<td></td>
<td>57</td>
<td>Eroding top of island, (R) bank</td>
</tr>
</tbody>
</table>

**Comments:**
## Photo Inventory

*BY CAMERA* → BY STREAM REACH

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<tr>
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<th>Stream/Reach</th>
<th>Location ID</th>
<th>Photo #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>11/24/09</td>
<td>NBP-16</td>
<td>DOWNSTREAM END</td>
<td>PE2400-38</td>
<td>TERMINAL CULVERT, ARMORED BANKS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>39</td>
<td>ARMORED CHANNEL (RIPRAP), STEEP SLOPE @ BANK</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>40</td>
<td>SLOPE FAILURE + BROKEN PIPE, @ BANK</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>42</td>
<td>RIPNAPPED BANK+SLOPE, ERODING @ BANK</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>43</td>
<td>ERODING @ BANK + PIPE EXPOSED BY EROSION</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>44</td>
<td>Gabion wall, @ BANK, with concrete structure</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>45</td>
<td>Mallards + Wood Ducks by undercut bank</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NEAR UPSTREAM END</td>
<td>46</td>
<td>OUTFALL PIPE, @ BANK</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>47</td>
<td>CONCRETE STRUCTURE + ERODING @ BANK</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>48</td>
<td>OUTFALL PIPE + HEADWALL @ BANK, just below Asylum Ave. Bridge</td>
</tr>
</tbody>
</table>

**COMMENTS:**
### Photo Inventory

(By Camera) → By Stream Reach

<table>
<thead>
<tr>
<th>Date</th>
<th>Stream/Reach</th>
<th>Location ID</th>
<th>Photo #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>11/23/09</td>
<td>NBP-19</td>
<td>Downstream</td>
<td>2b31-3</td>
<td>EXCAVATED CHANNEL + CONCRETE WALL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>End</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td>2</td>
<td>BANK, EXC. CHANNEL</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td>3</td>
<td>BROKEN PIPE + COLLAPSED HEADWALL</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td>4</td>
<td>FALLEN TREE + DEBRIS DAM</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Upstream</td>
<td>5</td>
<td>CULVET AT UPSTREAM END, LOOKING UPSTREAM</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>End</td>
<td>6</td>
<td>STORMWATER OUTFALL WEST OF STREAM</td>
</tr>
</tbody>
</table>

**Comments:**
# Photo Inventory

*By Camera* → *By Stream Reach*

**Project:** 08-3233  
**Group:** BG + CM  
**Camera:** OLYMPUS

This field sheet is to be completed as photos are taken in the field. The intent is to force us to organize pictures taken on a camera basis. Fill out one sheet per camera (add sheets as needed). Only fill in Date/Reach/Location ID when you start in a new spatial or temporal location.

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<thead>
<tr>
<th>Date</th>
<th>Stream/Reach</th>
<th>Location ID</th>
<th>Photo #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>11/24/09 FYB-02</td>
<td>DOWNSTREAM END</td>
<td>75</td>
<td>Looking upstream from mouth</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>76</td>
<td>Erosion, trees falling in</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>77</td>
<td>Debris dam</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>78</td>
<td>Eroding banks, deep pool</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>79</td>
<td>Pipe 1 (R) bank (housing side)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>80</td>
<td>Another debris dam, with trash</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>82</td>
<td>Stormwater pipe + trash (L) bank (below parking lot)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>83</td>
<td>Culvert under cottage grove road, looking upstream</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>84</td>
<td>Downstream from culvert</td>
<td></td>
</tr>
</tbody>
</table>

**Comments:**
## Photo Inventory

*(By Camera) → By Stream Reach*

### Project: 083253
### Group: BG+CM
### Camera: Olympus

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<thead>
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<th>Stream/Reach</th>
<th>Location ID</th>
<th>Photo #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/3/09</td>
<td>BBW-02</td>
<td>DOWNSTREAM</td>
<td>12</td>
<td>FROM WINTONBURY AVE. CULVERT, END AT TRIBUTARY ON (BBE-04) TRESTLE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>END</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>13</td>
<td>WINTONBURY AVE. CULVERT FLOODED CULVERT</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>15</td>
<td>LAWN IN BUFFER W</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>16</td>
<td>FROM FILLER STREET</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>17</td>
<td>TURBID WATER ENTERING FILLER STREET CULVERT</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>18</td>
<td>TRIBUTARY ON School ground in background</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UPSTREAM</td>
<td>19</td>
<td>LAWN ON (2) BEFORE ENTERING WOODED SECTION</td>
</tr>
</tbody>
</table>

### Comments:


**Photo Inventory**

(By Camera) → By Stream Reach

**Project:** 08-3233  
**Group:** BG + CM  
**Camera:** OLYMPUS 2

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<th>Photo #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/3/09</td>
<td>BBE-01</td>
<td>Downstream End</td>
<td>PM300-09</td>
<td>Confluence with tributary on (R)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>10</td>
<td>From culvert under dike</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Upstream End</td>
<td>11</td>
<td>Inlet structure E. of dike, with flooding</td>
</tr>
</tbody>
</table>

Comments:
### Photo Inventory

#### (By Camera) -> By Stream Reach

**Project:** 08-3233  
**Group:** BE+CM  
**Camera:** OLYMPUS 2

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<th>Location ID</th>
<th>Photo #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/3/09</td>
<td>BBE-02</td>
<td>NEAR DOORMAN END</td>
<td>P0030+</td>
<td>FLOODING IN SCRUB/SHRUB WETLAND, NEAR CONfluence Norm BBE-03</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>06</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>07</td>
<td>TYPICAL WOODED SECTION, STREAM WITHIN BANKS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>08</td>
<td>ABANDONED CAV NEXT TO STREAM</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Comments:**
## Photo Inventory

(For Camera) BY STREAM REACH

<table>
<thead>
<tr>
<th>Project: 08-3a33</th>
<th>Group: 06+CM</th>
<th>Camera: OLYMPUS</th>
<th>Comments:</th>
</tr>
</thead>
</table>

This field sheet is to be completed as photos are taken in the field. The intent is to force us to organize pictures taken on a camera basis. Fill out one sheet per camera (add sheets as needed). Only fill in Date/Reach/Location ID when you start in a new spatial or temporal location.

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<th>Stream/Reach</th>
<th>Location ID</th>
<th>Photo #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/3/09</td>
<td>BBE-04</td>
<td>DOWNSTREAM END</td>
<td>PC0300-02</td>
<td>FROM WINTONBURY AVE. CULVET 1, CONFLUENCE WITH BSW-02 AT TREES</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>03</td>
<td>WINTONBURY AVE. CULVET 1 WITH STREAM OVER BANKS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>04</td>
<td>STREAM OVER BANKS, TRIBUTARY FROM RESIDENCE ON (R)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>05</td>
<td>STREAM CROSSING DISTURBED POWER LINE EASEMENT, WITH FLOODING</td>
</tr>
</tbody>
</table>
# Photo Inventory

**Project:** 08-323

**Group:** GE+CM

**Camera:** OLYMPUS 2

This field sheet is to be completed as photos are taken in the field. The intent is to force us to organize pictures taken on a camera basis. Fill out one sheet per camera (add sheets as needed). Only fill in Date/Reach/Location ID when you start in a new spatial or temporal location.

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<thead>
<tr>
<th>Date</th>
<th>Stream/Reach</th>
<th>Location ID</th>
<th>Photo #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/3/09</td>
<td>WBS-03</td>
<td>DOWNSTREAM END</td>
<td>28</td>
<td>CONFLUENCE WITH TUBUTARY ON LEFT</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>27</td>
<td>LOOKING UPSTREAM @ YARD WITH PAVED AREA NEAR @ BANK</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>26</td>
<td>DOWNSTREAM FROM ROAD CULVET</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>25</td>
<td>DETAILS AT UPSTREAM SIDE OF BLOCKED ROAD CULVET</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>24</td>
<td>IN FLOODED WOODS ABOVE CULVET, FLOODED TUBUTARY FROM LEFT</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>23</td>
<td>TUSSOCK EDGE HUMMOLICS LEADING TO WOODS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>22</td>
<td>WET MEADOW</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UPSTREAM END</td>
<td>21</td>
<td>FROM CULVET UNDER DIKE</td>
</tr>
</tbody>
</table>

**Comments:**
# Photo Inventory

**Project:** DE-3233  
**Group:** BG + CM  
**Camera:** OLYMPUS 2

This field sheet is to be completed as photos are taken in the field. The intent is to force us to organize pictures taken on a camera basis. Fill out one sheet per camera (add sheets as needed). Only fill in Date/Reach/Location ID when you start in a new spatial or temporal location.

<table>
<thead>
<tr>
<th>Date</th>
<th>Stream/Reach</th>
<th>Location ID</th>
<th>Photo #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/3/09</td>
<td>WBS-04</td>
<td>DOWNSTREAM END</td>
<td>020-300-43</td>
<td>CULVERT UNDER BLOWN SWEET WITH STORMWATER PIPE, ABOVE STONE + DEBRIS DAM</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>42</td>
<td>CATTAIL MARSH + FLOODED SECTION OF POND, ABOVE STONE + DEBRIS DAM</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>41</td>
<td>ANOTHER STONE + DEBRIS DAM</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>40</td>
<td>STORMWATER PIPE FROM EQUIPMENT YARD</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>39</td>
<td>FROM DRAINWAY CROSSING</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>38</td>
<td>DOUBLE DRAINWAY CULVERTS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>37</td>
<td>STREAM IN CATTAIL MARSH, HOUSE PASTURE ON BANKS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>36</td>
<td>FOOTING, DEBRIS + DAM SPILLWAY + DOWNSTREAM</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>35</td>
<td>BANKING ENDING, BANK OF NEWLY REBUILT POND</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>34</td>
<td>SMALL DAM AGE AND REBUILT POND WITH UNPROTECTED SOIL PILERS + BANKS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>32</td>
<td>CULVERT ABOVE SMALL BRIDGE, WITH POOL AND EQUIPMENT</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>31</td>
<td>JUNK ACROSS, IN AND ON BANK OF STREAM, POOL IN BACKGROUND</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>30</td>
<td>PHORAGINUS, MOUTH x VALLEYS, AND AUTUMN OLIVE ON BISH BANKS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>UPSTREAM END</td>
<td>FROM CONFLUENCE</td>
</tr>
</tbody>
</table>

**Comments:**
### Photo Inventory

**Project:** 08-3233  
**Group:** BG + CM  
**Camera:** OLYMPUS 2  

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<th>Photo #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Dec 09</td>
<td>WBN-04</td>
<td>DOWNSTREAM END</td>
<td>46</td>
<td>STREAM ENTERING CULVET UNDER MUCKO ROAD</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>47</td>
<td>SINUOUS CHANNEL + FLOODING IN FLOODPLAIN N. OF MUCKO ROAD</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>48</td>
<td>COLLAPSING FOOTBRIDGE TO BOY SCOUT CABIN</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>49</td>
<td>CONFLUENCE WITH TRIBUTARY ON E</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>50</td>
<td>MEANDER IN MOSS AND SKUNK CABBAGE FLOODPLAIN</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>51</td>
<td>OLD CROSSING WITH BROKEN PIPE, OLD FARM DUMP IN BACKGROUND</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>52</td>
<td>RESIDENTIAL YARD WITH UNDISTURBED BUFFER ON BANK</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>53</td>
<td>ATV BRIDGE FROM SAME YARD</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>54</td>
<td>MAN-MADE STONE BANK, SAME YARD</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>55</td>
<td>TANKS IN STREAM AND ON @ BANK</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>56</td>
<td>VERY TINCHY YARD ON @ BANK, FROM DOWNSTREAM END OF LONG CULVET</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>57</td>
<td>STREAM APPROACHING LONG CULVET, UNDER 2 DRAWSWAYS AND LAWN BEHIND FENCE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>58</td>
<td>MOWN BUFFER @ WITH JAPANESE KNOTTED BON BANKS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>59</td>
<td>ROADSIDE CHANNEL WITH J. KOOTWEED, END OF CULVET UNDER Woodland AVE.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CATTAIL MASH LEADING TO WOODLAND AVE CULVET BELOW POND E. OF ROAD</td>
</tr>
</tbody>
</table>

**Comments:**
# Photo Inventory

(By Camera) → By Stream Reach

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<th>Photo #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/8/09</td>
<td>Downstream</td>
<td>WTR-02</td>
<td>64 PROECCO</td>
<td>Culvert under old farm road</td>
</tr>
<tr>
<td></td>
<td>WTR-02</td>
<td></td>
<td>65</td>
<td>Tributary on (R) sediment on (L) small</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Downstream</td>
<td>66</td>
<td>Old Timber Bridge (Footbridge)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>End</td>
<td>67</td>
<td>Sinuous Channel, New Fill and Pipe on (L)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>68</td>
<td>Fences + Fallen Trees across Stream</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>69</td>
<td>Almost-Equal Tributary on (R)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>70</td>
<td>Relatively Stable Undercut (L) Bank</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>71</td>
<td>Unstable Bank Erosion in Downcutting</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>72</td>
<td>Flow Pipe Through Dudley Pond Dam</td>
</tr>
</tbody>
</table>

**Comments:**

**Project:** 08-3233

**Group:** BG + CM

**Camera:** OLYMPUS 2
# Photo Inventory

(By Camera) → By Stream Reach

**Project:** 08-3233
**Group:** BG+CM
**Camera:** OLYMPUS

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<th>Location ID</th>
<th>Photo #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/8/09</td>
<td>WTM-01</td>
<td>DOWNSTREAM END</td>
<td>R0800-73</td>
<td>STREAM ENTERING MARSH AT N. END OF DUDLEY TOWN POND</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>74</td>
<td>TYPICAL SECTION IN MIDDLE</td>
</tr>
<tr>
<td></td>
<td>UPSTREAM END</td>
<td>75</td>
<td>FROM CULVETS UNDER OLD FROM ROAD</td>
<td></td>
</tr>
</tbody>
</table>

**Comments:**
### Photo Inventory

- **Project:** OE-3233
- **Group:** BG+CM
- **Camera:** OLYMPUS I + DISPOSABLE

This field sheet is to be completed AS photos are taken in the field. The intent is to force us to organize pictures taken on a camera basis. Fill out one sheet per camera (add sheets as needed). Only fill in Date/Reach/Location ID when you start in a new spatial or temporal location.

<table>
<thead>
<tr>
<th>Date</th>
<th>Stream/Reach</th>
<th>Location ID</th>
<th>Photo</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>11/30/07</td>
<td>FYB-03</td>
<td>Downstream</td>
<td>002</td>
<td>BANK EROSION + CULVERT UNDER COTTAGE GROVE ROAD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reach End</td>
<td>003</td>
<td>TYPICAL SHOAL STRATA W/ALDER, DOGWOOD</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>004</td>
<td>RIFFLE WITH SAND RIFFLES</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>005</td>
<td>CULMNY NEW FLOODPLAIN BELOW OLD FLOODPLAIN (DOWNCUTTING?)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>006</td>
<td>PIPE + ERODED CHANNEL FROM SUBDIVISION BANK</td>
</tr>
<tr>
<td>DIGITAL CAM</td>
<td></td>
<td>LOST CHARGE</td>
<td>009</td>
<td>BANK EROSION AND SLOPE FAILURE 2</td>
</tr>
<tr>
<td>REPLACED W/ DISPOSABLE</td>
<td></td>
<td></td>
<td>DISP-08</td>
<td>RIPRAP @ BANK</td>
</tr>
<tr>
<td></td>
<td>FYB-03</td>
<td>Upstream</td>
<td>DISP-09</td>
<td>RIPRAP + MULTIFLORA ROSE FROM RR BED</td>
</tr>
</tbody>
</table>

**Comments:**
### Photo Inventory

**Project:** 08-3233  
**Group:** BG + CM  
**Camera:** DISPOSABLE

This field sheet is to be completed as photos are taken in the field. The intent is to force us to organize pictures taken on a camera basis. Fill out one sheet per camera (add sheets as needed). Only fill in Date/Reach/Location ID when you start in a new spatial or temporal location.

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<th>Date</th>
<th>Stream/Reach</th>
<th>Location ID</th>
<th>Photo #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/30/09 FYB-01</td>
<td>DOWNSTREAM END</td>
<td>1493000-3</td>
<td>RR CULVERTS, CHANNEL ALONGSIDE RR</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td>CLEANED, GRADED, AND MULCHED @ BANK AND BUFFER UNDER POWERLINE TOWER</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td>FROM PARK AVENUE, WITH TRASH</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6</td>
<td>PARK AVE. CULVERTS (3) FROM UPSTREAM</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>7</td>
<td>TYPICAL MEADOW + SHRUB MESH</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>8</td>
<td>TRIBUTARY FROM 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>9</td>
<td>TOP END WITH MOWN MEADOW + SHRUBS</td>
</tr>
</tbody>
</table>

**Comments:** SOME COLOR ANOMALIES FROM WET FLOU
### Photo Inventory

 проблемы: BY STREAM REACH

**Project:** 08-3233  
**Group:** OS+CM  
**Camera:** DISPOSABLE

This field sheet is to be completed as photos are taken in the field. The intent is to force us to organize pictures taken on a camera basis. Fill out one sheet per camera (add sheets as needed). Only fill in Date/Reach/Location ID when you start in a new spatial or temporal location.

<table>
<thead>
<tr>
<th>Date</th>
<th>Stream/Reach</th>
<th>Location ID</th>
<th>Photo #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>11/30/09 WBS-11</td>
<td>Downstream End</td>
<td>149300-10</td>
<td>COVERED FOOTBRIDGE AT FORK IN CHANNEL (Α Flow to 2)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>11</td>
<td>CULVERT FROM MEDICAL SIDE PARKING LOT</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>12</td>
<td>BEAVSCL SLICE ON Β, BEAVSCL AND GRAVEL STREAMBED</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>13</td>
<td>R TRIBUTARY FROM Β BANK</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>14</td>
<td>EROSION AND SLIDE FAILURE Α BANK BELOW GABION + TURF 1/2 SLOPE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>15</td>
<td>GABION, RAMP, + BLOCK ON Β SLOPE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>16</td>
<td>R SLOPE FAILURE + RAMP NEAR BLOOMFIELD AVENUE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>17</td>
<td>COTTAGE GROVE ROAD CULVERTS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>18</td>
<td>TRIBUTARY Β FROM Β BANK</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>19</td>
<td>OAKS ON ERoding Β BANK</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>20</td>
<td>ANCH CULVERT UNDER BLOOMFIELD AVENUE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>21</td>
<td>GOLF CAT FOOTBRIDGE AND REMAINS OF DAM BLOOMFIELD AVENUE IN BACKGROUND</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>22</td>
<td>TYPICAL STREAM IN WOODS WEST OF GOLF COURSE</td>
</tr>
</tbody>
</table>

**Comments:** DISCOLORATIONS FROM WET FILM, PHOTO AT UPSTREAM END RUINED
### Photo Inventory

**Project:** 08-3233  
**Group:** BG + CM  
**Camera:** OLYMPUS

This field sheet is to be completed as photos are taken in the field. The intent is to force us to organize pictures taken on a camera basis. Fill out one sheet per camera (add sheets as needed). Only fill in Date/Reach/Location ID when you start in a new spatial or temporal location.

<table>
<thead>
<tr>
<th>Date</th>
<th>Stream/Reach</th>
<th>Location ID</th>
<th>Photo #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2/8/09</td>
<td>BHR-01</td>
<td>DOWNSTREAM</td>
<td>84</td>
<td>STREAM ENTERING CATTAIL POND</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PROSPECT END</td>
<td></td>
<td></td>
</tr>
<tr>
<td>85</td>
<td></td>
<td></td>
<td></td>
<td>ADELS + PHRAGMITES ABOVE POND, STREAM CHANNEL DIFFUSE</td>
</tr>
<tr>
<td>86</td>
<td></td>
<td></td>
<td></td>
<td>EXTENSIVE DUMPING @ SLOPE BY ALVIN BLDG.</td>
</tr>
<tr>
<td>87</td>
<td></td>
<td></td>
<td></td>
<td>TRIBUTARY @ ABOVE ALVIN SLOPE</td>
</tr>
<tr>
<td>88</td>
<td></td>
<td></td>
<td></td>
<td>ADELSWAMP, ALVIN BLDG. IN BACKGROUND</td>
</tr>
<tr>
<td>89</td>
<td></td>
<td></td>
<td></td>
<td>TYPICAL WOODED SECTION FROM OLD FARM ROAD</td>
</tr>
<tr>
<td>90</td>
<td></td>
<td></td>
<td></td>
<td>STREAM ENTERING FARM RD. CULVERT, PART OF ABANDONED CAR ON R</td>
</tr>
<tr>
<td>91</td>
<td></td>
<td></td>
<td></td>
<td>EXTENSIVE SEDIMENT DEPOSITION IN WETLAND, WASHOUT INSIDE FROM INDUSTRIAL SITE R</td>
</tr>
<tr>
<td>92</td>
<td></td>
<td></td>
<td></td>
<td>IRON STAINS, SEDIMENT DEPOSITION, AND MccORR TRACKS SOUTH OF ROUTE 187</td>
</tr>
<tr>
<td>93</td>
<td></td>
<td></td>
<td></td>
<td>SEDIMENT FROM ATE 187 CULVERT, BALE TRUCKLE OF FLOW, COON TRACKS</td>
</tr>
<tr>
<td>94</td>
<td></td>
<td></td>
<td></td>
<td>SEDIMENTED STREAM FROM ATE 187</td>
</tr>
<tr>
<td>95</td>
<td></td>
<td></td>
<td></td>
<td>ATE 187 CULVERT INLET, PHRAGMITES AT EDGE OF POND</td>
</tr>
<tr>
<td>96</td>
<td></td>
<td></td>
<td></td>
<td>CENTER OF POND</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DOWNSTREAM END</td>
<td>97</td>
<td>NORTH END OF POND, SEDGE Marsh, NO STREAMS FLOWING INTO POND</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Comments:** NO STREAM, NO CHANNEL NORTH OF ROUTE 187
### Photo Inventory

**Project:** 08-3333

**Group:** BG+CM

**Camera:** OLYMPUS 2

This field sheet is to be completed as photos are taken in the field. The intent is to force us to organize pictures taken on a camera basis. Fill out one sheet per camera (add sheets as needed). Only fill in Date/Reach/Location ID when you start in a new spatial or temporal location.

<table>
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<tr>
<th>Date</th>
<th>Stream/Reach</th>
<th>Location ID</th>
<th>Photo #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/8/04</td>
<td>BHR-02</td>
<td>DOWNSTREAM</td>
<td>76</td>
<td>STREAM ENTERING CULVERT UNDER WEST DUDLEYTOWN ROAD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>END</td>
<td>77</td>
<td>NEARLY EQUAL TRIBUTARY ON ☐</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>78</td>
<td>TYPICAL FORESTED STRETCH W/SAND BAR</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>79</td>
<td>TRIBUTARY ☐</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>80</td>
<td>BANK EROSION (MIRC) ON ☐</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>81</td>
<td>PHALAROPES AND BARRELS ☐ BANK</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>82</td>
<td>MORE BARRELS + TRASH ☐ BUFFER (SAME DUMP)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UPSTREAM</td>
<td>83</td>
<td>2 PIPES IN CATALLA POND DAM</td>
</tr>
</tbody>
</table>

**Comments:**
<table>
<thead>
<tr>
<th>Date</th>
<th>Stream/Reach</th>
<th>Location ID</th>
<th>Photo #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>11/30/09</td>
<td>TBD-05</td>
<td>NEAR DOCUMENT END</td>
<td>14920D 10</td>
<td>SLOPING LAWN (w) BANK ABOVE SAND PIPE, DRAIN CULVERT (JUST BEFORE ENTERING UPSTREAM WOODS... NOT SURE WHERE TBD-05/06 BREAK IS)</td>
</tr>
</tbody>
</table>

**Comments:** REMAINDER OF PHOTOS RUINED BY WATERSWARM FILM
This field sheet is to be completed as photos are taken in the field. The intent is to force us to organize pictures taken on a camera basis. Fill out one sheet per camera (add sheets as needed). Only fill in Date/Reach/Location ID when you start in a new spatial or temporal location.

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<th>Date</th>
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<th>Location ID</th>
<th>Photo #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>11/30/09</td>
<td>TDB-06</td>
<td>n200' above downstream end</td>
<td>05</td>
<td>MOWN FIELD ON RIGHT (PALE?)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>UPSTREAM FROM LAST WOODED SECTION</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>06</td>
<td>TRIBUTARY IN CATTAIL MARSH</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>07</td>
<td>FROM CULVERT NEAR (UNDER) MAILAND DRIVE</td>
</tr>
</tbody>
</table>

Comments: REMAINING PHOTOS IN THIS SECTION WASHED BY WATERS ON FLOOD
Photo Inventory

(By Camera) → BY STREAM REACH

Project: 08-3233
Group: BG+CM
Camera: DISPOSABLE

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<th>Location ID</th>
<th>Photo #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>11/30/09</td>
<td>TBD-08</td>
<td>NEAR DOWNSTREAM END</td>
<td>01</td>
<td>FROM MAPLE AVE. CULVERT, MAPLE PUT + BANKS + CHANNEL, CONfluence BEYOND TREES</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>02</td>
<td>ENTERING MAPLE AVE. CULVERT</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>03</td>
<td>LAWN TO 10 BANK</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UPSTREAM END</td>
<td>04</td>
<td>CONfluence ON 10</td>
</tr>
</tbody>
</table>

**COMMENTS:** SOME PHOTOS COST TO NFT FILM IN 1ST DISPOSABLE CAMERA
# Photo Inventory

**Project:** OT-3233  
**Group:** BG+CM  
**Camera:** OLYMPUS 2

This field sheet is to be completed AS photos are taken in the field. The intent is to force us to organize pictures taken on a camera basis. Fill out one sheet per camera (add sheets as needed). Only fill in Date/Reach/Location ID when you start in a new spatial or temporal location.

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<tr>
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<th>Location ID</th>
<th>Photo #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/1/09</td>
<td>TBD-12</td>
<td>DOWNSTREAM END</td>
<td>PC0100-09</td>
<td>CONFLUENCE W/TIMBUTANY ON (A), COMING OUT OF WOODED SECTION</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>08</td>
<td>BANK SLOPE ON (A), WOODED SECTION</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>07</td>
<td>RIPRAP ON (A) + PIPE FROM GOLF COURSE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>06</td>
<td>2 TYPES OF AQUATIC PLANTS SEEN</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>04</td>
<td>TYPICAL SECTION BETWEEN OLD Fields</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>03</td>
<td>FROM SIMSBURY ROAD CULVERT</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>02</td>
<td>WOODED SECTION ABOVE SIMSBURY CULVERTS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UPSTREAM END</td>
<td>01</td>
<td>TIMBUTANY ON (B)</td>
</tr>
</tbody>
</table>

**Comments:** Photos listed from downstream to upstream end, but stream was walked upstream to downstream
### Photo Inventory

**(By Camera) → By Stream Reach**

**Project:** 08-3233  
**Group:** BG+CM  
**Camera:** OLYMPUS 2

This field sheet is to be completed as photos are taken in the field. The intent is to force us to organize pictures taken on a camera basis. Fill out one sheet per camera (add sheets as needed). Only fill in Date/Reach/Location ID when you start in a new spatial or temporal location.

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<th>Location ID</th>
<th>Photo #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/1/09</td>
<td>TDB-14</td>
<td>Downstream</td>
<td>R0100-18</td>
<td>ENTERING GOLF COURSE POND, WITH MANHOLE + PIPE ON D BANDEK</td>
</tr>
<tr>
<td></td>
<td></td>
<td>END</td>
<td>17</td>
<td>WIDE PHOTO ACCOMPLISH GOLF COURSE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>16</td>
<td>TRIBUTARY IN OPEN FIELD, B BANKE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>15</td>
<td>ALDER-COVERED BANKS ABOVE TRIBUTARY</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>14</td>
<td>STONE AT OLD CROSSING?</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>13</td>
<td>HERBAEOUS GROWTH NEAR BANK (Arrow Arum?)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>12</td>
<td>TRIBUTARY ON D BANKE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>11</td>
<td>MOSS ON BANK IN OVERGROWN PASTURE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Upstream</td>
<td>10</td>
<td>SHRUB/SCRUB SECTION DOWNSTREAM FROM CONfluence</td>
</tr>
</tbody>
</table>

**Comments:** Photos listed downstream → upstream, but walked up → down
# Photo Inventory

((By Camera) → By Stream Reach)

**Project:** 08-3233  
**Group:** BG+CM  
**Camera:** OLYMPUS 2  

This field sheet is to be completed as photos are taken in the field. The intent is to force us to organize pictures taken on a camera basis. Fill out one sheet per camera (add sheets as needed). Only fill in Date/Reach/Location ID when you start in a new spatial or temporal location.

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<th>Location ID</th>
<th>Photo #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/1/09</td>
<td>WBN-06</td>
<td>DOWNSTREAM END</td>
<td>R0180-41</td>
<td>LOOKING DOWNSTREAM AT CONfluence WITH WBN-07 → WBS-01</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>42</td>
<td>SEDIMENT BAR AND MEANDER</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>43</td>
<td>GRASSY AQUATIC VEGETATION</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>44</td>
<td>CYPRESS SALICARIA + RAILROAD TIES IN CHANNEL ON WEST SIDE OF RR</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>45</td>
<td>FROM RR CULVENTS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>46</td>
<td>CATTAILS AND CYPRUS S. ON EAST-SIDE RR</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>47</td>
<td>FROM DEEP MARSH INTO LARGE PATCH OF PHAAGMITES NEXT TO RR</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>48</td>
<td>CHANNEL IN SWING THICKET BY DEEP MARSH</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>49</td>
<td>TYPICAL SECTION IN WOODS, MOVING TO OUT OF PHOTO</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>50</td>
<td>TRIBUTARY ON @</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>51</td>
<td>WHAT LOOKS LIKE ANOTHER TRIBUTARY ON @ IS BUILT CHANNEL REJOINING MARSH</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>52</td>
<td>SPLIT IN CHANNEL UPSTREAM</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>53</td>
<td>FROM CULVENT UNDER PETERS ROAD</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>54</td>
<td>POOL BETWEEN CULVENTS N. OF PETERS RD.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>55</td>
<td>JUNC IN CHANNEL ABOVE CULVENT</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>56</td>
<td>FROM CONfluence IN WOODED SECTION</td>
</tr>
</tbody>
</table>

**Comments:**  
UPSTREAM END  
58 FROM CONfluence IN WOODED SECTION
### Photo Inventory

*(By Camera) ➔ By Stream Reach*

**Project:** 08-3233  
**Group:** BG + CM  
**Camera:** OLYMPUS 2

This field sheet is to be completed as photos are taken in the field. The intention is to ensure us to organize pictures taken on a camera basis. Fill out one sheet per camera (add sheets as needed). Only fill in Date/Reach/Location ID when you start in a new spatial or temporal location.

<table>
<thead>
<tr>
<th>Date</th>
<th>Stream/Reach</th>
<th>Location ID</th>
<th>Photo #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/1/09</td>
<td>WBS-01</td>
<td>Downstream End</td>
<td>PC0100-09</td>
<td>Confluence with WBS-05 on R</td>
</tr>
<tr>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td>Lawns on R Bank + Buffer</td>
</tr>
<tr>
<td>31</td>
<td></td>
<td></td>
<td></td>
<td>Stormwater Gully and Erosion R Bank</td>
</tr>
<tr>
<td>32</td>
<td></td>
<td></td>
<td></td>
<td>Rippap Riffle</td>
</tr>
<tr>
<td>33</td>
<td></td>
<td></td>
<td></td>
<td>Small tributary on R Drain Swamp</td>
</tr>
<tr>
<td>34</td>
<td></td>
<td></td>
<td></td>
<td>Flow Dorothy Canal</td>
</tr>
<tr>
<td>35</td>
<td></td>
<td></td>
<td></td>
<td>Double box culvert under Dorothy Dr.</td>
</tr>
<tr>
<td>36</td>
<td></td>
<td></td>
<td></td>
<td>Multiflora rose climbing over stream</td>
</tr>
<tr>
<td>37</td>
<td></td>
<td></td>
<td></td>
<td>Hairpin curve</td>
</tr>
<tr>
<td>38</td>
<td></td>
<td></td>
<td></td>
<td>Typical wooded stream</td>
</tr>
<tr>
<td>39</td>
<td></td>
<td></td>
<td></td>
<td>Stone remains of old end oldam</td>
</tr>
<tr>
<td>40</td>
<td>Upstream End</td>
<td></td>
<td></td>
<td>Confluence with WBN-06 on L</td>
</tr>
</tbody>
</table>

**Comments:**
## Photo Inventory

(By Camera → By Stream Reach)

<table>
<thead>
<tr>
<th>Date</th>
<th>Stream/Reach</th>
<th>Location ID</th>
<th>Photo #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12/1/09</td>
<td>WBS-06 DOWNSTREAM</td>
<td>PC0100-19</td>
<td>CONFLUENCE NEAR CANEY STONE</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>20</td>
<td>LAWN ON @ BANK (LOOKING UPSTREAM)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>21</td>
<td>WOODY DEBRIS &amp; STONY @ BANK (NATURAL?)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>22</td>
<td>TREE BRIDGE/DAM &amp; PLASTIC DEBRIS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>23</td>
<td>FOOTBRIDGE OVER TRIBUTARY ON @</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>24</td>
<td>FROM MILLS CANYE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>25</td>
<td>CULVERTS UNDER MILLS CANYE</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>26</td>
<td>PACHYSANDRA @ BANK, TRIBUTARY @</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>27</td>
<td>MEANDER SECTION WITH BENCHES</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>28</td>
<td>MEANDER, POINT BAR, APARTMENTS, LOOKING UPSTREAM</td>
</tr>
</tbody>
</table>

Comments: See photo #29 in WBS-01 for confluence at upstream end.