

**Stream & Location:** Big Creek-East Branch-Memphis Picnic Area **RM:** 4.40 **Date:** 8/20/09

Hotton River, Grand **Scorers Full Name & Affiliation:** Northeast Ohio Regional Sewer District

**River Code:** - **STORET #:** - **Lat./Long.:** 41.4460 181.7540 (NAD 83 - decimal°) **Office verified location**

**1) SUBSTRATE** Check ONLY Two substrate TYPE BOXES; estimate % or note every type present

|  |   |   |   |   |   |
|--|---|---|---|---|---|
| <b>BEST TYPES</b>  | <b>POOL RIFFLE</b>  | <b>OTHER TYPES</b>  | <b>POOL RIFFLE</b>  | <b>ORIGIN</b>                                 | <b>QUALITY</b>                                    |
| <input type="checkbox"/> BLDR /SLABS [10]                                      | <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> | <input type="checkbox"/> HARDPAN [4]  | <input type="checkbox"/> <input type="checkbox"/>                       | <input type="checkbox"/> LIMESTONE [1]        | <input type="checkbox"/> HEAVY [-2]               |
| <input type="checkbox"/> BOULDER [9]   | <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> | <input type="checkbox"/> DETRITUS [3]                                       | <input type="checkbox"/> <input type="checkbox"/>                       | <input checked="" type="checkbox"/> TILLS [1] | <input type="checkbox"/> MODERATE [-1]            |
| <input type="checkbox"/> COBBLE [8]  | <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> | <input type="checkbox"/> MUCK [2]   | <input type="checkbox"/> <input type="checkbox"/>                       | <input type="checkbox"/> WETLANDS [0]         | <input type="checkbox"/> NORMAL [0]               |
| <input checked="" type="checkbox"/> GRAVEL [7]                                 | <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> | <input type="checkbox"/> SILT [2]   | <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> | <input type="checkbox"/> HARDPAN [0]          | <input type="checkbox"/> FREE [1]                 |
| <input type="checkbox"/> SAND [6]  | <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> | <input type="checkbox"/> ARTIFICIAL [0]                                     | <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> | <input type="checkbox"/> SANDSTONE [0]        | <input type="checkbox"/> EXTENSIVE [-2]           |
| <input type="checkbox"/> BEDROCK [5]   | <input checked="" type="checkbox"/> <input type="checkbox"/>            | <small>(Score natural substrates; ignore sludge from point-sources)</small> |   | <input type="checkbox"/> RIP/RAP [0]          | <input checked="" type="checkbox"/> MODERATE [-1] |
| <b>NUMBER OF BEST TYPES:</b> <input checked="" type="checkbox"/> 4 or more [2] | <input type="checkbox"/> 3 or less [0]                                  | <input type="checkbox"/> LACUSTURINE [0]                                    | <input type="checkbox"/> SHALE [-1]                                     | <input type="checkbox"/> COAL FINES [-2]      | <input type="checkbox"/> NONE [1]                 |

**Comments**

**Substrate**  
18.5  
Maximum 20

**2) INSTREAM COVER** Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools.)

|   |  |   |  |
|---|--|---|--|
| <input type="checkbox"/> UNDERCUT BANKS [1]           | <input type="checkbox"/> POOLS > 70cm [2]        | <input type="checkbox"/> OXBOWS, BACKWATERS [1]   | <b>AMOUNT</b>                                  |
| <input type="checkbox"/> OVERHANGING VEGETATION [1]   | <input type="checkbox"/> ROOTWADS [1]            | <input type="checkbox"/> AQUATIC MACROPHYTES [1]  | Check ONE (Or 2 & average)                     |
| <input type="checkbox"/> SHALLOWS (IN SLOW WATER) [1] | <input checked="" type="checkbox"/> BOULDERS [1] | <input type="checkbox"/> LOGS OR WOODY DEBRIS [1] | <input type="checkbox"/> EXTENSIVE >75% [11]   |
| <input type="checkbox"/> ROOTMATS [1]                 |  |   | <input type="checkbox"/> MODERATE 25-75% [7]   |
|   |  |   | <input type="checkbox"/> SPARSE 5-<25% [3]     |
|   |  |   | <input type="checkbox"/> NEARLY ABSENT <5% [1] |

**Comments**

**Cover**  
Maximum 20  
5

**3) CHANNEL MORPHOLOGY** Check ONE in each category (Or 2 & average)

|  |  |  |  |   |
|--|--|--|--|---|
| <b>SINUOSITY</b>                             | <b>DEVELOPMENT</b>                           | <b>CHANNELIZATION</b>                              | <b>STABILITY</b>                                 | <b>Channel</b>  |
| <input type="checkbox"/> HIGH [4]            | <input type="checkbox"/> EXCELLENT [7]       | <input checked="" type="checkbox"/> NONE [6]       | <input type="checkbox"/> HIGH [3]                | <span style="border: 1px solid black; border-radius: 10px; padding: 5px;">12</span> |
| <input type="checkbox"/> MODERATE [3]        | <input type="checkbox"/> GOOD [5]            | <input type="checkbox"/> RECOVERED [4]             | <input checked="" type="checkbox"/> MODERATE [2] |   |
| <input type="checkbox"/> LOW [2]             | <input checked="" type="checkbox"/> FAIR [3] | <input type="checkbox"/> RECOVERING [3]            | <input type="checkbox"/> LOW [1]                 |   |
| <input checked="" type="checkbox"/> NONE [1] | <input type="checkbox"/> POOR [1]            | <input type="checkbox"/> RECENT OR NO RECOVERY [1] |  |   |

**Comments**

**4) BANK EROSION AND RIPARIAN ZONE** Check ONE in each category for EACH BANK (Or 2 per bank & average)

|   |   |  |   |
|---|---|--|---|
| <b>EROSION</b>  | <b>RIPARIAN WIDTH</b>                                   | <b>FLOOD PLAIN QUALITY</b>   | <b>Riparian</b>   |
| <input checked="" type="checkbox"/> NONE / LITTLE [3] | <input type="checkbox"/> WIDE > 50m [4]                 | <input type="checkbox"/> FOREST, SWAMP [3]                           | <span style="border: 1px solid black; border-radius: 10px; padding: 5px;">5.75</span> |
| <input type="checkbox"/> MODERATE [2]                 | <input checked="" type="checkbox"/> MODERATE 10-50m [3] | <input type="checkbox"/> SHRUB OR OLD FIELD [2]                      |   |
| <input type="checkbox"/> HEAVY / SEVERE [1]           | <input type="checkbox"/> NARROW 5-10m [2]               | <input checked="" type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1] |   |
|   | <input type="checkbox"/> VERY NARROW < 5m [1]           | <input type="checkbox"/> FENCED PASTURE [1]                          |   |
|   | <input checked="" type="checkbox"/> NONE [0]            | <input type="checkbox"/> OPEN PASTURE, ROWCROP [0]                   | Indicate predominant land use(s) past 100m riparian.                                  |

**Comments**

**5) POOL / GLIDE AND RIFFLE / RUN QUALITY**

|   |   |   |   |
|---|---|---|---|
| <b>MAXIMUM DEPTH</b>                              | <b>CHANNEL WIDTH</b>  | <b>CURRENT VELOCITY</b>                               | <b>Recreation Potential</b>                     |
| Check ONE (ONLY!)                                 | Check ONE (Or 2 & average)  | Check ALL that apply                                  | <b>Primary Contact</b>                          |
| <input type="checkbox"/> > 1m [6]                 | <input type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]            | <input type="checkbox"/> TORRENTIAL [-1]              | <b>Secondary Contact</b>                        |
| <input type="checkbox"/> 0.7-<1m [4]              | <input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]            | <input checked="" type="checkbox"/> SLOW [1]          | <small>(circle one and comment on back)</small> |
| <input checked="" type="checkbox"/> 0.4-<0.7m [2] | <input checked="" type="checkbox"/> POOL WIDTH < RIFFLE WIDTH [0] | <input type="checkbox"/> VERY FAST [1]                |   |
| <input type="checkbox"/> 0.2-<0.4m [1]            |   | <input checked="" type="checkbox"/> FAST [1]          |   |
| <input type="checkbox"/> < 0.2m [0]               |   | <input checked="" type="checkbox"/> MODERATE [1]      |   |
|   |   | <input checked="" type="checkbox"/> INTERSTITIAL [-1] |   |
|   |   | <input type="checkbox"/> INTERMITTENT [-2]            |   |
|   |   | <input checked="" type="checkbox"/> EDDIES [1]        |   |

**Comments**

**Pool / Current**  
Maximum 12  
6

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average).  NO RIFFLE [metric=0]

|   |  |  |   |
|---|--|--|---|
| <b>RIFFLE DEPTH</b>                                       | <b>RUN DEPTH</b>                                       | <b>RIFFLE / RUN SUBSTRATE</b>  | <b>RIFFLE / RUN EMBEDDEDNESS</b>            |
| <input checked="" type="checkbox"/> BEST AREAS > 10cm [2] | <input type="checkbox"/> MAXIMUM > 50cm [2]            | <input type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]              | <input type="checkbox"/> NONE [2]           |
| <input type="checkbox"/> BEST AREAS 5-10cm [1]            | <input checked="" type="checkbox"/> MAXIMUM < 50cm [1] | <input checked="" type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1] | <input checked="" type="checkbox"/> LOW [1] |
| <input type="checkbox"/> BEST AREAS < 5cm [metric=0]      |  | <input type="checkbox"/> UNSTABLE (e.g., Fine Gravel, Sand) [0]          | <input type="checkbox"/> MODERATE [0]       |

**Comments**

**Riffle / Run**  
Maximum 8  
4.5

**6) GRADIENT** ( 17.60 ft/mi)  VERY LOW - LOW [2-4] % POOL:  % GLIDE:   
**DRAINAGE AREA** ( 19.3 mi<sup>2</sup>)  MODERATE [6-10] % RUN:  % RIFFLE:   
 HIGH - VERY HIGH [10-6] **Gradient** Maximum 10 10

Comment RE: Reach consistency// is reach typical of stream?, Recreation/Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.

**AJ SAMPLED REACH**

Check ALL that apply

**METHOD**

- BOAT
- WADE
- L. LINE
- OTHER

**STAGE**

- 1st-sample pass--2nd
- HIGH
  - UP
  - NORMAL
  - LOW
  - DRY

**DISTANCE**

- 0.5 Km
- 0.2 Km
- 0.15 Km
- 0.12 Km
- OTHER

**CLARITY**

- 1st --sample pass-- 2nd
- < 20 cm
  - 20-<40 cm
  - 40-70 cm
  - > 70 cm/CTB
  - SECCHI DEPTH

meters

**CANOPY**

- > 85%- OPEN
- 55%-<85%
- 30%-<55%
- 10%-<30%
- <10%- CLOSED

**CJ RECREATION**

AREA DEPTH

POOL:  >100r<sup>2</sup>  >3ft

**FJ MEASUREMENTS**

- $\bar{x}$  width
- $\bar{x}$  depth
- max. depth
- bankfull width
- bankfull  $\bar{x}$  depth
- W/D ratio
- bankfull max. depth
- floodprone  $\bar{x}^2$  width
- entrench. ratio
- Legacy Tree:

**EJ ISSUES**

- WWTP / CSO / NPDES / INDUSTRY
- HARDENED / URBAN / DIRT&GRIME
- CONTAMINATED / LANDFILL
- BMPs-CONSTRUCTION-SEDIMENT
- LOGGING / IRRIGATION / COOLING
- BANK / EROSION / SURFACE
- FALSE BANK / MANURE / LAGOON
- WASH H<sub>2</sub>O / TILE / H<sub>2</sub>O TABLE
- ACID / MINE / QUARRY / FLOW
- NATURAL / WETLAND / STAGNANT
- PARK / GOLF / LAWN / HOME
- ATMOSPHERE / DATA PAUCITY

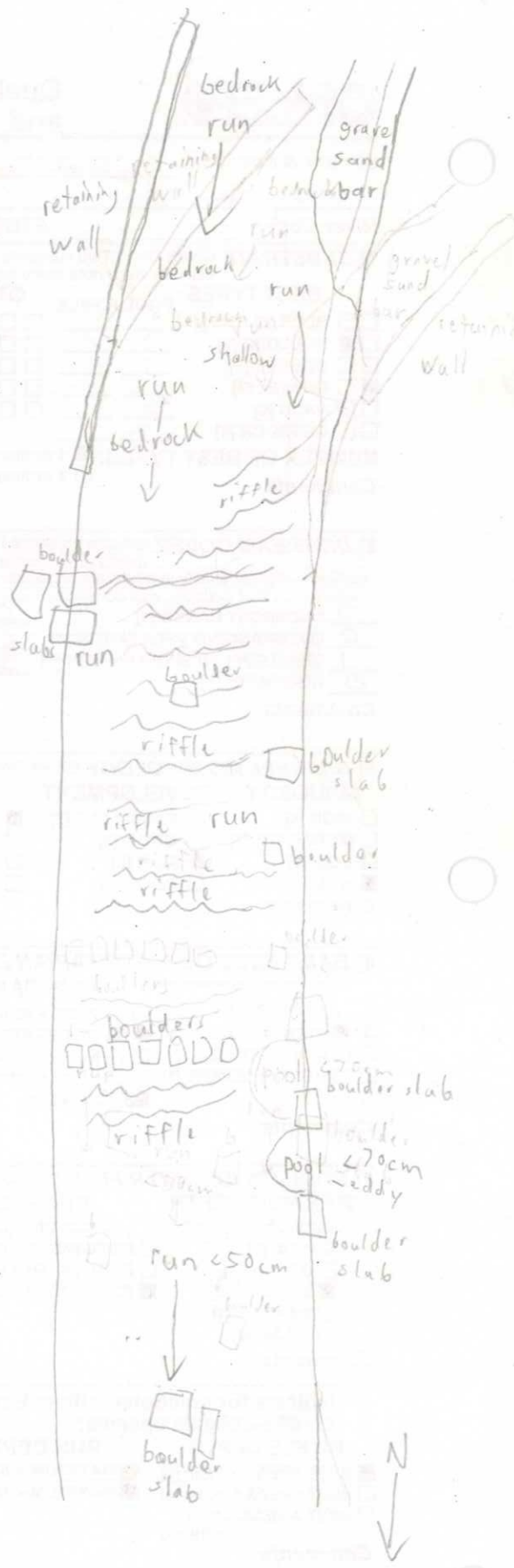
**DJ MAINTENANCE**

- PUBLIC / PRIVATE / BOTH / NA
- ACTIVE / HISTORIC / BOTH / NA
- YOUNG-SUCCESSION-OLD
- SPRAY / SNAG / REMOVED
- MODIFIED / DIPPED OUT / NA
- LEVEED / ONE SIDED
- RELOCATED / CUTOFFS
- MOVING-BEDLOAD-STABLE
- ARMoured / SLUMPS
- ISLANDS / SCOURED
- IMPOUNDED / DESICCATED
- FLOOD CONTROL / DRAINAGE

**BJ AESTHETICS**

- NUISANCE ALGAE
- INVASIVE MACROPHYTES
- EXCESS TURBIDITY
- DISCOLORATION
- FOAM / SCUM
- OIL SHEEN
- TRASH / LITTER
- NUISANCE ODOR
- SLUDGE DEPOSITS
- CSOs/ISSOs/OUTFALLS

**Stream Drawing:**



Stream & Location: Big Creek - Ford Branch US of West 150 Street RM: 4.70 Date: 8/20/09

Hothorn, Rivera, Granting

Scorers Full Name & Affiliation: Northeast Ohio Regional Sewer District

River Code: - STORET #: Lat./ Long.: 41.4230 181.8019 Office verified location

1] SUBSTRATE Check ONLY Two substrate TYPE BOXES; estimate % or note every type present

Check ONE (Or 2 & average)

Substrate assessment grid with categories: BEST TYPES, OTHER TYPES, POOL RIFFLE, ORIGIN, QUALITY. Includes checkboxes for BLDR/SLABS, BOULDER, COBBLE, GRAVEL, SAND, BEDROCK, etc. and a score box for 10.5.

2] INSTREAM COVER Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools.

AMOUNT

Check ONE (Or 2 & average)

Instream Cover assessment grid with categories: UNDERCUT BANKS, OVERHANGING VEGETATION, SHALLOWS, ROOTMATS, POOLS, ROOTWADS, BOULDERS, OXBOWS, BACKWATERS, AQUATIC MACROPHYTES, LOGS OR WOODY DEBRIS. Includes checkboxes and a score box for 13.

3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average)

Channel Morphology assessment grid with categories: SINUOSITY, DEVELOPMENT, CHANNELIZATION, STABILITY. Includes checkboxes for HIGH, MODERATE, LOW, NONE and a score box for 11.5.

4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank & average)

Bank Erosion and Riparian Zone assessment grid with categories: EROSION, RIPARIAN WIDTH, FLOOD PLAIN QUALITY, CONSERVATION TILLAGE, URBAN OR INDUSTRIAL, MINING / CONSTRUCTION. Includes checkboxes and a score box for 9.5.

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

Pool / Glide and Riffle / Run Quality assessment grid with categories: MAXIMUM DEPTH, CHANNEL WIDTH, CURRENT VELOCITY. Includes checkboxes and a score box for 10.

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: NO RIFFLE [metric=0]

Riffle / Run Embeddedness assessment grid with categories: RIFFLE DEPTH, RUN DEPTH, RIFFLE / RUN SUBSTRATE, RIFFLE / RUN EMBEDDEDNESS. Includes checkboxes and a score box for 0.

6] GRADIENT (14.60 ft/mi) DRAINAGE AREA (4.3 mi^2) VERY LOW - LOW, MODERATE, HIGH - VERY HIGH, %POOL, %GLIDE, %RUN, %RIFFLE. Includes checkboxes and a score box for 8.

Comment RE: Reach consistency/ Is reach typical of stream?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.

**AJ SAMPLED REACH**  
Check ALL that apply

- METHOD**  
 BOAT  
 WADE  
 L. LINE  
 OTHER
- STAGE**  
 1st-sample pass-- 2nd  
 HIGH  
 UP  
 NORMAL  
 LOW  
 DRY

- DISTANCE**  
 0.5 Km  
 0.2 Km  
 0.15 Km  
 0.12 Km  
 OTHER
- CLARITY**  
 1st --sample pass-- 2nd  
 < 20 cm  
 20-<40 cm  
 40-70 cm  
 > 70 cm/ CTB  
 SECCHI DEPTH

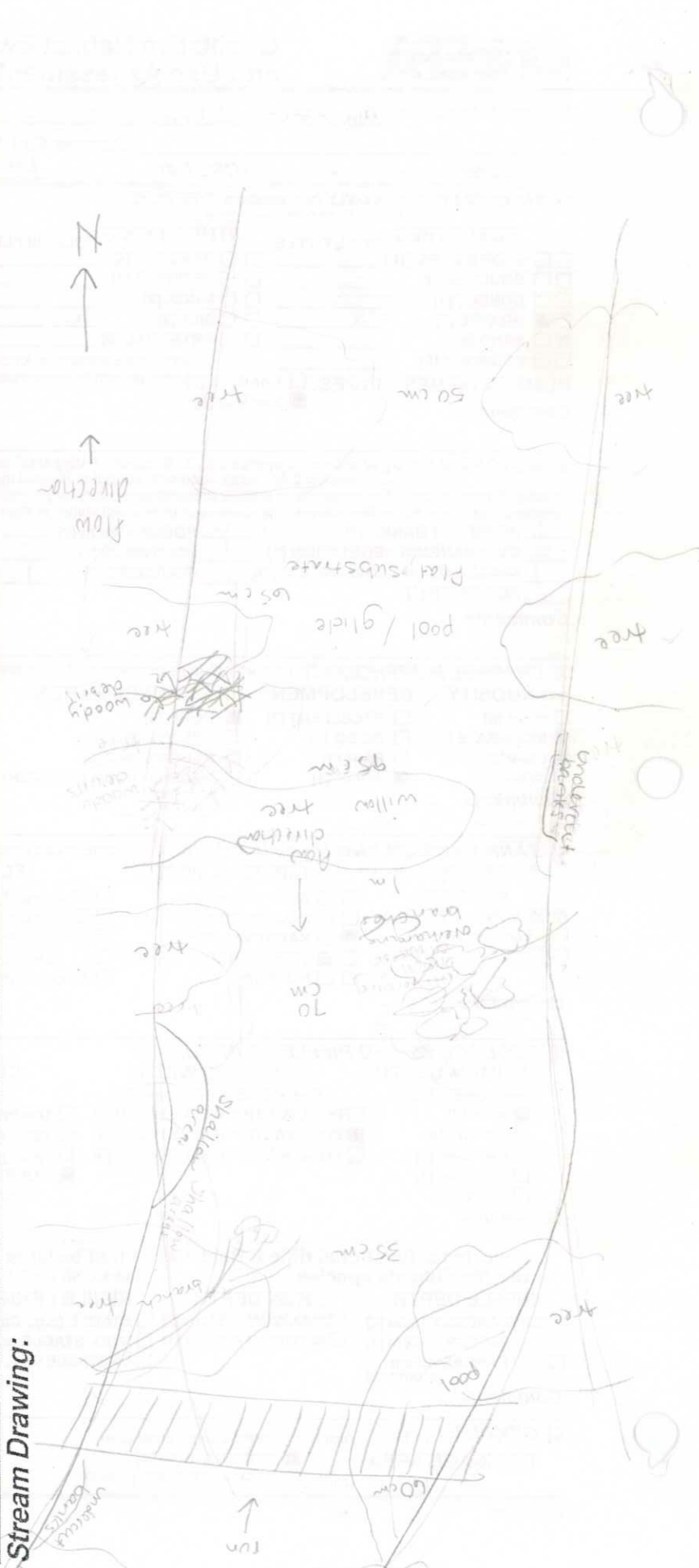
- CANOPY**  
 meters  
 1st pass \_\_\_\_\_ cm  
 2nd pass \_\_\_\_\_ cm
- CJ RECREATION**  
 > 85%- OPEN  
 55%-<85%  
 30%-<55%  
 10%-<30%  
 <10%- CLOSED

- BJAESTHETICS**  
 NUISANCE ALGAE  
 INVASIVE MACROPHYTES  
 EXCESS TURBIDITY  
 DISCOLORATION  
 FOAM / SCUM  
 OIL SHEEN  
 TRASH / LITTER  
 NUISANCE ODOR  
 SLUDGE DEPOSITS  
 CSOs/SSOs/OUTFALLS
- AREA DEPTH**  
 >100ft<sup>2</sup>  >3ft  
 POOL:

- DJ MAINTENANCE**  
 PUBLIC / PRIVATE / BOTH / NA  
 ACTIVE / HISTORIC / BOTH / NA  
 YOUNG-SUCCESSION-OLD  
 SPRAY / SNAG / REMOVED  
 MODIFIED / DIPPED OUT / NA  
 LEVEED / ONE SIDED  
 RELOCATED / CUTOFFS  
 MOVING-BEDLOAD-STABLE  
 ARMoured / SLUMPS  
 ISLANDS / SCOURED  
 IMPOUNDED / DESICCATED  
 FLOOD CONTROL / DRAINAGE

- EJ ISSUES**  
 WWTP / CSO / NPDES / INDUSTRY  
 HARDENED / URBAN / DIRT&GRIME  
 CONTAMINATED / LANDFILL  
 BMPs-CONSTRUCTION-SEDIMENT  
 LOGGING / IRRIGATION / COOLING  
 BANK / EROSION / SURFACE  
 FALSE BANK / MANURE / LAGOON  
 WASH H<sub>2</sub>O / TILE / H<sub>2</sub>O TABLE  
 ACID / MINE / QUARRY / FLOW  
 NATURAL / WETLAND / STAGNANT  
 PARK / GOLF / LAWN / HOME  
 ATMOSPHERE / DATA PAUCITY

- FJ MEASUREMENTS**  
 width  
 depth  
 max. depth  
 bankfull width  
 bankfull x depth  
 W/D ratio  
 bankfull max. depth  
 floodprone x<sup>2</sup> width  
 entrench. ratio  
 Legacy Tree:



Stream & Location: Big Creek DS of Jennings Road RM: 0.15 Date: 8/20/09

Hothorn, River, Grandland Scorers Full Name & Affiliation: Northeast Ohio Regional Sewer District

River Code: - - - - - STORET #: - - - - - Lat./Long.: 41.4460 181.6865 Office verified location

**1] SUBSTRATE** Check ONLY Two substrate TYPE BOXES; estimate % or note every type present

|  |  |   |  |   |  |   |  |
|--|--|---|--|---|--|---|--|
| <b>BEST TYPES</b>                              |  | <b>OTHER TYPES</b>                      |  | <b>ORIGIN</b>                                 |  | <b>QUALITY</b>                                    |  |
| <input type="checkbox"/> BLDR /SLABS [10]      | <input checked="" type="checkbox"/> POOL   | <input type="checkbox"/> HARDPAN [4]    | <input type="checkbox"/> POOL              | <input type="checkbox"/> LIMESTONE [1]        | <input type="checkbox"/> SILT          | <input type="checkbox"/> HEAVY [-2]               | <input type="checkbox"/> MODERATE [-1] |
| <input type="checkbox"/> BOULDER [9]           | <input checked="" type="checkbox"/> RIFFLE | <input type="checkbox"/> DETRITUS [3]   | <input type="checkbox"/> RIFFLE            | <input checked="" type="checkbox"/> TILLS [1] | <input type="checkbox"/> WETLANDS [0]  | <input checked="" type="checkbox"/> NORMAL [0]    | <input type="checkbox"/> FREE [1]      |
| <input type="checkbox"/> COBBLE [8]            | <input checked="" type="checkbox"/> POOL   | <input type="checkbox"/> MUCK [2]       | <input type="checkbox"/> RIFFLE            | <input type="checkbox"/> HARDPAN [0]          | <input type="checkbox"/> SANDSTONE [0] | <input type="checkbox"/> EXTENSIVE [-2]           | <input type="checkbox"/> MODERATE [-1] |
| <input checked="" type="checkbox"/> GRAVEL [7] | <input checked="" type="checkbox"/> POOL   | <input type="checkbox"/> SILT [2]       | <input checked="" type="checkbox"/> RIFFLE | <input type="checkbox"/> SANDSTONE [0]        | <input type="checkbox"/> RIP/RAP [0]   | <input checked="" type="checkbox"/> MODERATE [-1] | <input type="checkbox"/> NORMAL [0]    |
| <input checked="" type="checkbox"/> SAND [6]   | <input checked="" type="checkbox"/> POOL   | <input type="checkbox"/> ARTIFICIAL [0] | <input checked="" type="checkbox"/> RIFFLE | <input type="checkbox"/> LACUSTURINE [0]      | <input type="checkbox"/> SHALE [-1]    | <input type="checkbox"/> NONE [1]                 | <input type="checkbox"/> NONE [1]      |
| <input type="checkbox"/> BEDROCK [5]           | <input type="checkbox"/> POOL              |   | <input type="checkbox"/> RIFFLE            | <input type="checkbox"/> COAL FINES [-2]      |  |   |  |

NUMBER OF BEST TYPES:  4 or more [2]  3 or less [0]

Comments: \_\_\_\_\_

Substrate  
15  
Maximum  
20

**2] INSTREAM COVER** Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools.)

|                                       |                           |                                   |
|---------------------------------------|---------------------------|-----------------------------------|
| <u>1</u> UNDERCUT BANKS [1]           | <u>2</u> POOLS > 70cm [2] | <u>0</u> OXBOWS, BACKWATERS [1]   |
| <u>0</u> OVERHANGING VEGETATION [1]   | <u>1</u> ROOTWADS [1]     | <u>0</u> AQUATIC MACROPHYTES [1]  |
| <u>1</u> SHALLOWS (IN SLOW WATER) [1] | <u>2</u> BOULDERS [1]     | <u>1</u> LOGS OR WOODY DEBRIS [1] |
| <u>0</u> ROOTMATS [1]                 |                           |                                   |

AMOUNT: Check ONE (Or 2 & average)

EXTENSIVE >75% [11]  
 MODERATE 25-75% [7]  
 SPARSE 5-<25% [3]  
 NEARLY ABSENT <5% [1]

Comments: \_\_\_\_\_

Cover  
12  
Maximum  
20

**3] CHANNEL MORPHOLOGY** Check ONE in each category (Or 2 & average)

|  |  |  |   |
|--|--|--|---|
| <b>SINUOSITY</b>                                 | <b>DEVELOPMENT</b>                           | <b>CHANNELIZATION</b>                              | <b>STABILITY</b>                            |
| <input type="checkbox"/> HIGH [4]                | <input type="checkbox"/> EXCELLENT [7]       | <input checked="" type="checkbox"/> NONE [6]       | <input type="checkbox"/> HIGH [3]           |
| <input checked="" type="checkbox"/> MODERATE [3] | <input checked="" type="checkbox"/> GOOD [5] | <input type="checkbox"/> RECOVERED [4]             | <input type="checkbox"/> MODERATE [2]       |
| <input type="checkbox"/> LOW [2]                 | <input type="checkbox"/> FAIR [3]            | <input type="checkbox"/> RECOVERING [3]            | <input checked="" type="checkbox"/> LOW [1] |
| <input type="checkbox"/> NONE [1]                | <input type="checkbox"/> POOR [1]            | <input type="checkbox"/> RECENT OR NO RECOVERY [1] |   |

Comments: \_\_\_\_\_

Channel  
15  
Maximum  
20

**4] BANK EROSION AND RIPARIAN ZONE** Check ONE in each category for EACH BANK (Or 2 per bank & average)

River right looking downstream

|   |  |   |
|---|--|---|
| <b>EROSION</b>  | <b>RIPARIAN WIDTH</b>                                    | <b>FLOOD PLAIN QUALITY</b>                                |
| <input checked="" type="checkbox"/> NONE / LITTLE [3] | <input type="checkbox"/> WIDE > 50m [4]                  | <input type="checkbox"/> FOREST, SWAMP [3]                |
| <input type="checkbox"/> MODERATE [2]                 | <input type="checkbox"/> MODERATE 10-50m [3]             | <input type="checkbox"/> SHRUB OR OLD FIELD [2]           |
| <input type="checkbox"/> HEAVY / SEVERE [1]           | <input type="checkbox"/> NARROW 5-10m [2]                | <input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1] |
|   | <input checked="" type="checkbox"/> VERY NARROW < 5m [1] | <input type="checkbox"/> FENCED PASTURE [1]               |
|   | <input type="checkbox"/> NONE [0]                        | <input type="checkbox"/> OPEN PASTURE, ROWCROP [0]        |

Indicate predominant land use(s) past 100m riparian.

CONSERVATION TILLAGE [1]  
 URBAN OR INDUSTRIAL [0]  
 MINING / CONSTRUCTION [0]

Comments: \_\_\_\_\_

Riparian  
3.25  
Maximum  
10

**5] POOL / GLIDE AND RIFFLE / RUN QUALITY**

|  |   |   |
|--|---|---|
| <b>MAXIMUM DEPTH</b>                         | <b>CHANNEL WIDTH</b>  | <b>CURRENT VELOCITY</b>                               |
| Check ONE (ONLY!)                            | Check ONE (Or 2 & average)  | Check ALL that apply                                  |
| <input checked="" type="checkbox"/> > 1m [6] | <input checked="" type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2] | <input type="checkbox"/> TORRENTIAL [-1]              |
| <input type="checkbox"/> 0.7-<1m [4]         | <input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]            | <input checked="" type="checkbox"/> SLOW [1]          |
| <input type="checkbox"/> 0.4-<0.7m [2]       | <input type="checkbox"/> POOL WIDTH < RIFFLE WIDTH [0]            | <input type="checkbox"/> VERY FAST [1]                |
| <input type="checkbox"/> 0.2-<0.4m [1]       |   | <input type="checkbox"/> FAST [1]                     |
| <input type="checkbox"/> < 0.2m [0]          |   | <input type="checkbox"/> MODERATE [1]                 |
|  |   | <input checked="" type="checkbox"/> INTERSTITIAL [-1] |
|  |   | <input type="checkbox"/> INTERMITTENT [-2]            |
|  |   | <input checked="" type="checkbox"/> EDDIES [1]        |

Indicate for reach - pools and riffles.

Recreation Potential  
**Primary Contact**  
**Secondary Contact**  
 (circle one and comment on back)

Comments: \_\_\_\_\_

Pool / Current  
12  
Maximum  
12

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average).

|   |  |  |  |
|---|--|--|--|
| <b>RIFFLER DEPTH</b>                                      | <b>RUN DEPTH</b>                                       | <b>RIFFLER / RUN SUBSTRATE</b>   | <b>RIFFLER / RUN EMBEDDEDNESS</b>                  |
| <input checked="" type="checkbox"/> BEST AREAS > 10cm [2] | <input checked="" type="checkbox"/> MAXIMUM > 50cm [2] | <input type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]              | <input type="checkbox"/> NONE [2]                  |
| <input type="checkbox"/> BEST AREAS 5-10cm [1]            | <input type="checkbox"/> MAXIMUM < 50cm [1]            | <input checked="" type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1] | <input checked="" type="checkbox"/> LOW [1]        |
| <input type="checkbox"/> BEST AREAS < 5cm [metric=0]      |  | <input type="checkbox"/> UNSTABLE (e.g., Fine Gravel, Sand) [0]          | <input type="checkbox"/> MODERATE [0]              |
|   |  |  | <input checked="" type="checkbox"/> EXTENSIVE [-1] |

Comments: \_\_\_\_\_

Riffle / Run  
6  
Maximum  
8

**6] GRADIENT** (17.60 ft/mi)  VERY LOW - LOW [2-4]  MODERATE [6-10]  HIGH - VERY HIGH [10-6]

**DRAINAGE AREA** (37.1 mi<sup>2</sup>)

%POOL:  %GLIDE:   
 %RUN:  %RIFFLER:

Comments: \_\_\_\_\_

Gradient  
10  
Maximum  
10

**AJ SAMPLED REACH**

Check ALL that apply

**METHOD**

- BOAT
- WADE
- L. LINE
- OTHER

**DISTANCE**

- 0.5 Km
- 0.2 Km
- 0.15 Km
- 0.12 Km
- OTHER

**STAGE**

- 1st-sample pass-- 2nd
- HIGH
- UP
- NORMAL
- LOW
- DRY

**CLARITY**

- 1st --sample pass-- 2nd
- < 20 cm
- 20-40 cm
- 40-70 cm
- > 70 cm / CTB
- SECHI DEPTH

meters

**CANOPY**

- > 85%- OPEN
- 55%-<85%
- 30%-<55%
- 10%-<30%
- <10%- CLOSED

**CJ RECREATION**

AREA DEPTH  
POOL:  >100ft<sup>2</sup>  >3ft

**BJ AESTHETICS**

- NUISANCE ALGAE
- INVASIVE MACROPHYTES
- EXCESS TURBIDITY
- DISCOLORATION
- FOAM / SCUM
- OIL SHEEN
- TRASH / LITTER
- NUISANCE ODOR
- SLUDGE DEPOSITS
- CSOs/SSOs/OUTFALLS

**DJ MAINTENANCE**

- PUBLIC / PRIVATE / BOTH / NA
- ACTIVE / HISTORIC / BOTH / NA
- YOUNG-SUCCESSION-OLD
- SPRAY / SNAG / REMOVED
- MODIFIED / DIPPED OUT / NA
- LEVEED / ONE SIDED
- RELOCATED / CUTOFFS
- MOVING-BEDLOAD-STABLE
- ARMoured / SLURPED
- ISLANDS / SCoured
- IMPOUNDED / DESICCATED
- FLOOD CONTROL / DRAINAGE

**EJ ISSUES**

- WWTP / CSO / NPDES / INDUSTRY
- HARDENED / URBAN / DIRT&GRIME
- CONTAMINATED / LANDFILL
- BMPs-CONSTRUCTION-SEDIMENT
- LOGGING / IRRIGATION / COOLING
- BANK / EROSION / SURFACE
- FALSE BANK / MANURE / LAGOON
- WASH H<sub>2</sub>O / TILE / H<sub>2</sub>O TABLE
- ACID / MINE / QUARRY / FLOW
- NATURAL / WETLAND / STAGNANT
- PARK / GOLF / LAWN / HOME
- ATMOSPHERE / DATA PAUCITY

**FJ MEASUREMENTS**

- $\bar{x}$  width
- $\bar{x}$  depth
- max. depth
- $\bar{x}$  bankfull width
- bankfull  $\bar{x}$  depth
- W/D ratio
- bankfull max. depth
- floodprone  $\bar{x}^2$  width
- entrench. ratio

Legacy Tree:

**Stream Drawing:**

