

Stream & Location: Cuyahoga River UST Rockside Road **RM:** 13.15 **Date:** 2/6/10 20

S. Hatterm **D. Frabon** **Scorer's Full Name & Affiliation:** Northeast Ohio Regional Sewer District
River Code: 19-001-000 **STORET #:** 502020 **Lat./Long.:** 41.3935 -81.6296 **Office verified location**

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

<p>BEST TYPES</p> <input type="checkbox"/> BLDR / SLABS [10] <input type="checkbox"/> BOULDER [9] <input type="checkbox"/> COBBLE [8] <input type="checkbox"/> GRAVEL [7] <input checked="" type="checkbox"/> SAND [6] <input type="checkbox"/> BEDROCK [5]	<p>POOL RIFFLE</p> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<p>OTHER TYPES</p> <input type="checkbox"/> HARDPAN [4] <input type="checkbox"/> DETRITUS [3] <input type="checkbox"/> MUCK [2] <input type="checkbox"/> SILT [2] <input type="checkbox"/> ARTIFICIAL [0]	<p>POOL RIFFLE</p> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<p>ORIGIN</p> <input type="checkbox"/> LIMESTONE [1] <input type="checkbox"/> TILLS [1] <input type="checkbox"/> WETLANDS [0] <input type="checkbox"/> HARDPAN [0] <input type="checkbox"/> SANDSTONE [0] <input type="checkbox"/> RIP/RAP [0] <input type="checkbox"/> LACUSTURINE [0] <input type="checkbox"/> SHALE [-1] <input type="checkbox"/> COAL FINES [-2]	<p>QUALITY</p> <input type="checkbox"/> HEAVY [-2] <input checked="" type="checkbox"/> MODERATE [-1] <input type="checkbox"/> NORMAL [0] <input type="checkbox"/> FREE [1] <input type="checkbox"/> EXTENSIVE [-2] <input checked="" type="checkbox"/> MODERATE [-1] <input type="checkbox"/> NORMAL [0] <input type="checkbox"/> NONE [1]	<p>SILT</p> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>EMBEDDEDNESS</p> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<p>Substrate</p> <div style="border: 1px solid black; border-radius: 15px; padding: 5px; width: 40px; text-align: center; margin: 0 auto;">15</div> <p>Maximum 20</p>
---	---	--	---	---	--	---	---	--

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

Comments: Silt? 7+6+2+1+-1

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.)

<p>UNDERCUT BANKS [1]</p> <p><u>0</u></p>	<p>POOLS > 70cm [2]</p> <p><u>3</u></p>	<p>SKBOWS, BACKWATERS [1]</p> <p><u>0</u></p>	<p>AMOUNT Check ONE (Or 2 & average)</p> <input type="checkbox"/> EXTENSIVE >75% [11] <input checked="" type="checkbox"/> MODERATE 25-75% [7] <input type="checkbox"/> SPARSE 5-25% [3] <input type="checkbox"/> NEARLY ABSENT <5% [1]
<p>OVERHANGING VEGETATION [1]</p> <p><u>1</u></p>	<p>ROOTWADS [1]</p> <p><u>0</u></p>	<p>AQUATIC MACROPHYTES [1]</p> <p><u>0</u></p>	
<p>SHALLOWS (IN SLOW WATER) [1]</p> <p><u>2</u></p>	<p>BOULDER [1]</p> <p><u>1</u></p>	<p>LOGS OR WOODY DEBRIS [1]</p> <p><u>2</u></p>	

Comments: the 1st half of the reach has good cover second half is mostly glide **7+7**

Cover Maximum 20 14

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

<p>SINUOSITY</p> <input type="checkbox"/> HIGH [4] <input checked="" type="checkbox"/> MODERATE [3] <input type="checkbox"/> LOW [2] <input type="checkbox"/> NONE [1]	<p>DEVELOPMENT</p> <input type="checkbox"/> EXCELLENT [7] <input checked="" type="checkbox"/> GOOD [5] <input checked="" type="checkbox"/> FAIR [3] <input type="checkbox"/> POOR [1]	<p>CHANNELIZATION</p> <input checked="" type="checkbox"/> NONE [6] <input type="checkbox"/> RECOVERED [4] <input type="checkbox"/> RECOVERING [3] <input type="checkbox"/> RECENT OR NO RECOVERY [1]	<p>STABILITY</p> <input type="checkbox"/> HIGH [3] <input checked="" type="checkbox"/> MODERATE [2] <input type="checkbox"/> LOW [1]	<p>Channel</p> <div style="border: 1px solid black; border-radius: 15px; padding: 5px; width: 40px; text-align: center; margin: 0 auto;">15</div> <p>Maximum 20</p>
--	---	--	---	--

Comments: bends 3+4+6+2=15

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

River right looking downstream

<p>EROSION</p> <input checked="" type="checkbox"/> NONE / LITTLE [3] <input type="checkbox"/> MODERATE [2] <input type="checkbox"/> HEAVY / SEVERE [1]	<p>RIPARIAN WIDTH</p> <input checked="" type="checkbox"/> WIDE > 50m [4] <input type="checkbox"/> MODERATE 10-50m [3] <input type="checkbox"/> NARROW 5-10m [2] <input type="checkbox"/> VERY NARROW < 5m [1] <input type="checkbox"/> NONE [0]	<p>FLOOD PLAIN QUALITY</p> <input checked="" type="checkbox"/> FOREST / WAMP [3] <input type="checkbox"/> SHRUB OR OLD FIELD [2] <input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1] <input type="checkbox"/> FENCED PASTURE [1] <input type="checkbox"/> OPEN PASTURE, ROWCROP [0]	<p>CONSERVATION TILLAGE [1] <input type="checkbox"/> URBAN OR INDUSTRIAL [0] <input type="checkbox"/> MINING / CONSTRUCTION [0]</p> <p>Indicate predominant land use(s) past 100m riparian.</p>	<p>Riparian</p> <div style="border: 1px solid black; border-radius: 15px; padding: 5px; width: 40px; text-align: center; margin: 0 auto;">10</div> <p>Maximum 10</p>
---	--	--	--	---

Comments: 3+4+3

5) POOL / GLIDE AND RIFFLE / RUN QUALITY

<p>MAXIMUM DEPTH Check ONE (ONLY)</p> <input checked="" type="checkbox"/> > 1m [6] <input type="checkbox"/> 0.7-1m [4] <input type="checkbox"/> 0.4-0.7m [2] <input type="checkbox"/> 0.2-0.4m [1] <input type="checkbox"/> < 0.2m [0]	<p>CHANNEL WIDTH Check ONE (Or 2 & average)</p> <input checked="" type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2] <input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1] <input type="checkbox"/> POOL WIDTH < RIFFLE WIDTH [0]	<p>CURRENT VELOCITY Check ALL that apply</p> <input type="checkbox"/> TORRENTIAL [1] <input type="checkbox"/> VERY FAST [1] <input checked="" type="checkbox"/> FAST [1] <input checked="" type="checkbox"/> MODERATE [1]	<p>RECREATION POTENTIAL</p> <div style="border: 1px solid black; border-radius: 15px; padding: 5px; width: 60px; text-align: center; margin: 0 auto;"> Primary Contact Secondary Contact </div> <p>(circle one and comment on back)</p>	<p>Pool / Current</p> <div style="border: 1px solid black; border-radius: 15px; padding: 5px; width: 40px; text-align: center; margin: 0 auto;">11</div> <p>Maximum 12</p>
---	--	---	---	---

Comments: 6+2+3

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]

<p>RIFFLE DEPTH</p> <input checked="" type="checkbox"/> BEST AREAS > 10cm [2] <input type="checkbox"/> BEST AREAS 5-10cm [1] <input type="checkbox"/> BEST AREAS < 5cm [metric=0]	<p>RUN DEPTH</p> <input checked="" type="checkbox"/> MAXIMUM > 50cm [2] <input type="checkbox"/> MAXIMUM < 50cm [1]	<p>RIFFLE / RUN SUBSTRATE</p> <input type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2] <input checked="" type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1] <input type="checkbox"/> UNSTABLE (e.g., Fine Gravel, Sand) [0]	<p>RIFFLE / RUN EMBEDDEDNESS</p> <input type="checkbox"/> NONE [2] <input type="checkbox"/> LOW [1] <input checked="" type="checkbox"/> MODERATE [0] <input type="checkbox"/> EXTENSIVE [-1]	<p>Riffle / Run</p> <div style="border: 1px solid black; border-radius: 15px; padding: 5px; width: 40px; text-align: center; margin: 0 auto;">5</div> <p>Maximum 8</p>
--	---	---	--	---

Comments: 2+2+1+0

6) GRADIENT (3.88 m/mi) VERY LOW - LOW [2-4]
 MODERATE [6-10]
 HIGH - VERY HIGH [10-6]

DRAINAGE AREA (703 m²)

%POOL: 20 **%GLIDE:** 40

%RUN: 40 **%RIFFLE:** 20

Gradient Maximum 10 10

Stream & Location: Cuyahoga River DS Mill Creek Mark Malen

Scorers Full Name & Affiliation: Northeast Ohio Regional Sewer District

River Code: 19-00-000 STORET #: F01510 Lat./Long.: 41.4179 -81.6446

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

Substrate assessment grid with categories: BEST TYPES, OTHER TYPES, ORIGIN, and QUALITY. Includes checkboxes for various substrate types and a score box for 16.

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

Instream Cover assessment grid with categories: UNDERCUT BANKS, OVERHANGING VEGETATION, SHALLOWS, ROOTMATS, POOLS, ROOTWADS, BOULDERIS, BOWS, BACKWATERS, AQUATIC MACROPHYTES, LOGS OR WOODY DEBRIS. Includes checkboxes and a score box for 10.

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

Channel Morphology assessment grid with categories: SINUOSITY, DEVELOPMENT, CHANNELIZATION, STABILITY. Includes checkboxes and a score box for 17.

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 6.

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

Pool / Glide and Riffle / Run Quality assessment grid with categories: MAXIMUM DEPTH, CHANNEL WIDTH, CURRENT VELOCITY, Recreation Potential. Includes checkboxes and a score box for 12.

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species:

Riffle / Run Embeddedness assessment grid with categories: RIFFLE DEPTH, RUN DEPTH, RIFFLE / RUN SUBSTRATE, RIFFLE / RUN EMBEDDEDNESS. Includes checkboxes and a score box for 6.

6] GRADIENT (4.77 ft/mi) DRAINAGE AREA (730 m^2)

Gradient assessment grid with categories: GRADIENT, % POOL, % GLIDE, % RUN, % RIFFLE. Includes checkboxes and a score box for 10.

AJ SAMPLED REACH

Check ALL that apply

METHOD

- BJA1
- WADE
- L. LINE
- OTHER

STAGE

- HIGH
- UP
- NORMAL
- LOW
- DRY

DISTANCE

- 0.5 Km
- 0.2 Km
- 0.15 Km
- 0.1 Km
- OTHER

CLARITY

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

meters

CANOPY

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

CJ RECREATION

AREA DEPTH POOL: >100ft >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-SUGGESTION-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

Circle some & COMMENT

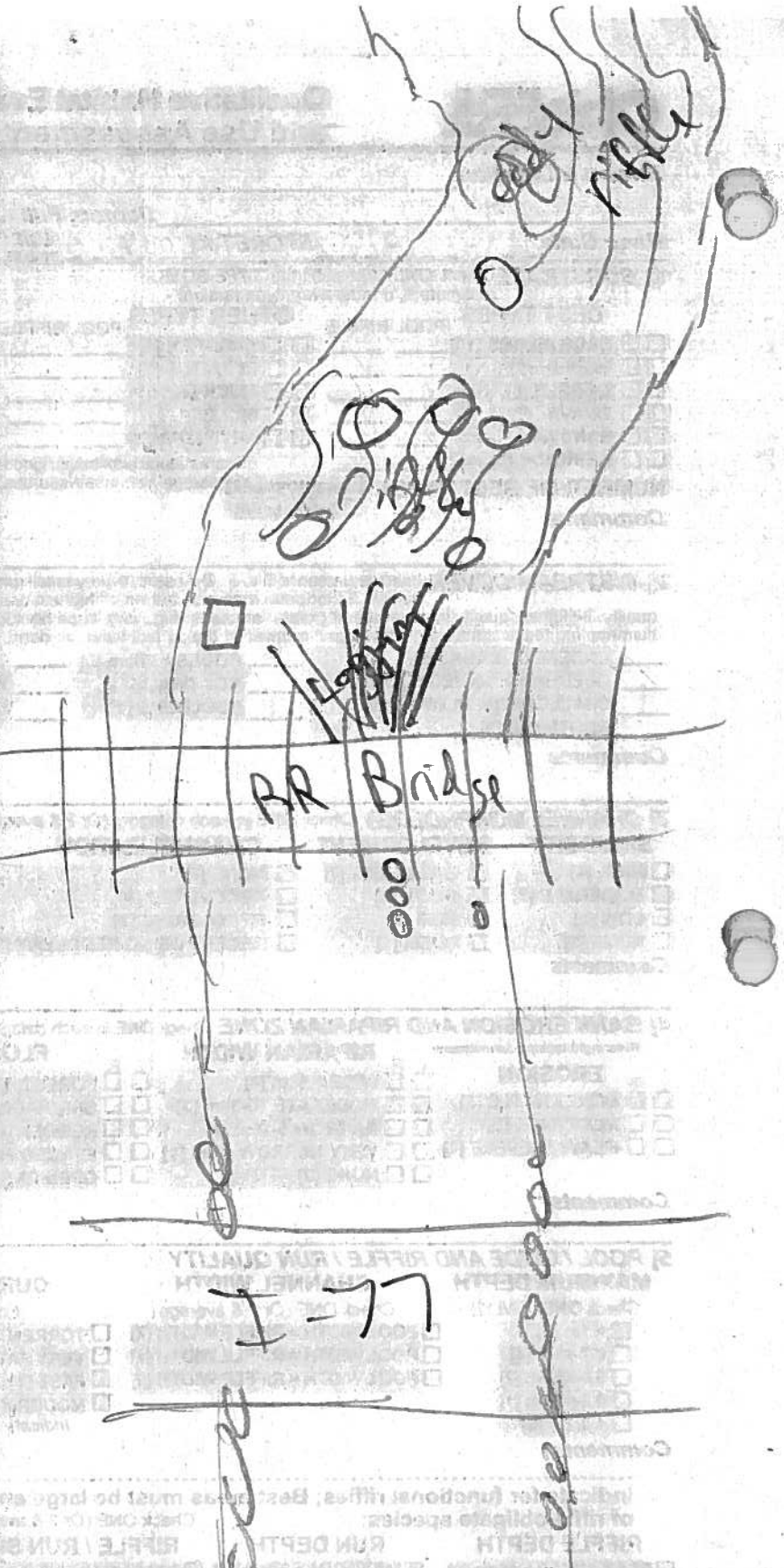
- EJ ISSUES**
- WWTP / CSO / NPDES / INDUSTRY
- HARDENED / URBAN /DIRT&GRIME
- CONTAMINATED / LANDFILL
- BMPs-CONSTRUCTION-SEDIMENT
- LOGGING / IRRIGATION / COOLING
- BANK/ EROSION / SURFACE
- FALSE BANK / MANURE / LAGOON
- WASH H₂O / TILE / H₂O TABLE
- ACID / MINE / QUARRY / FLOW
- NATURAL / WETLAND / 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 width
- entrance ratio

Legacy Tree:

Stream Littering



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

Stream & Location: Cuyahoga River US of Southern WPA RM: 10.75 Date: 08/13/20

Scorers Full Name & Affiliation: Seth Nathan Joe Schiel Northeast Ohio Regional Sewer District

River Code: 19-001-000 STORET #: FO1A25 Lat./ Long.: 41.4196 / 81.6547 Office verified location

1) SUBSTRATE Check ONLY Two substrate TYPE BOXES. estimate % of notes every type present

<p>BEST TYPES</p> <input type="checkbox"/> BLDR / SLABS [10] <input type="checkbox"/> BOULDER [9] <input type="checkbox"/> COBBLE [8] <input type="checkbox"/> GRAVEL [7] <input type="checkbox"/> SAND [6] <input type="checkbox"/> BEDROCK [5]	<p>POOL RIFFLE</p> <p><input checked="" type="checkbox"/> <input type="checkbox"/></p> <p><input checked="" type="checkbox"/> <input checked="" type="checkbox"/></p> <p><input checked="" type="checkbox"/> <input checked="" type="checkbox"/></p> <p><input checked="" type="checkbox"/> <input checked="" type="checkbox"/></p>	<p>OTHER TYPES</p> <input type="checkbox"/> HARDPAN [4] <input type="checkbox"/> DETRITUS [3] <input type="checkbox"/> MUCK [2] <input type="checkbox"/> SILT [2] <input type="checkbox"/> ARTIFICIAL [0]	<p>POOL RIFFLE</p> <p><input type="checkbox"/> <input type="checkbox"/></p> <p><input checked="" type="checkbox"/> <input checked="" type="checkbox"/></p> <p><input checked="" type="checkbox"/> <input checked="" type="checkbox"/></p>	<p>ORIGIN</p> <input type="checkbox"/> LIMESTONE [1] <input type="checkbox"/> TILLS [1] <input type="checkbox"/> WETLANDS [0] <input type="checkbox"/> HARDPAN [0] <input type="checkbox"/> SANDSTONE [0] <input type="checkbox"/> RIP/RAP [0] <input type="checkbox"/> LACUSTURINE [0] <input type="checkbox"/> SHALE [-1] <input type="checkbox"/> COAL FINES [-2]	<p>QUALITY</p> <input type="checkbox"/> HEAVY [-2] <input type="checkbox"/> MODERATE [-1] <input type="checkbox"/> NORMAL [0] <input type="checkbox"/> FREE [1] <input type="checkbox"/> EXTENSIVE [-2] <input type="checkbox"/> MODERATE [-1] <input type="checkbox"/> NORMAL [0] <input type="checkbox"/> NONE [1]	<p>SILT</p> <p>EMBEDDEDNESS</p>	<p>Substrate</p> <div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center; margin: 10px;"> 14 </div> <p>Maximum 20</p>
--	--	--	--	---	--	---------------------------------	--

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

Comments: _____

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.)

<p><u>1</u> UNDERCAT BANKS [1] <u>2</u> OVERHANGING VEGETATION [1] <u>2</u> SHALLOWS (IN SLOW WATER) [1] <u>1</u> ROOTMATS [1]</p>	<p><u>3</u> POOLS > 70cm [2] <u>1</u> ROOTWADS [1] <u>1</u> BOULDER [1]</p>	<p><u>1</u> CANYONS, BACKWATERS [1] <u>1</u> AQUATIC MACROPHYTES [1] <u>3</u> LOGS OR WOODY DEBRIS [1]</p>	<p>AMOUNT</p> <input type="checkbox"/> EXTENSIVE >75% [11] <input type="checkbox"/> MODERATE 25-75% [7] <input type="checkbox"/> SPARSE 5-25% [3] <input type="checkbox"/> NEARLY ABSENT <5% [1]	<p>Cover</p> <div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center; margin: 10px;"> 15 </div> <p>Maximum 20</p>
---	--	--	--	--

Comments: _____

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

<p>SINUOSITY</p> <input type="checkbox"/> HIGH [4] <input checked="" type="checkbox"/> MODERATE [3] <input type="checkbox"/> LOW [2] <input type="checkbox"/> NONE [1]	<p>DEVELOPMENT</p> <input type="checkbox"/> EXCELLENT [7] <input checked="" type="checkbox"/> GOOD [5] <input type="checkbox"/> FAIR [3] <input type="checkbox"/> POOR [1]	<p>CHANNELIZATION</p> <input type="checkbox"/> NONE [8] <input type="checkbox"/> RECOVERED [4] <input type="checkbox"/> RECOVERING [3] <input type="checkbox"/> RECENT OR NO RECOVERY [0]	<p>STABILITY</p> <input type="checkbox"/> HIGH [3] <input checked="" type="checkbox"/> MODERATE [2] <input type="checkbox"/> LOW [1]	<p>Channel</p> <div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center; margin: 10px;"> 16.5 </div> <p>Maximum 20</p>
--	--	---	---	--

Comments: _____

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

<p>River right looking downstream</p> <p>EROSION</p> <input checked="" type="checkbox"/> NONE / LITTLE [3] <input type="checkbox"/> MODERATE [2] <input type="checkbox"/> HEAVY / SEVERE [1]	<p>RIPARIAN WIDTH</p> <input type="checkbox"/> WIDE > 50m [4] <input checked="" type="checkbox"/> MODERATE 10-50m [3] <input type="checkbox"/> NARROW 5-10m [2] <input type="checkbox"/> VERY NARROW < 5m [1] <input type="checkbox"/> NONE [0]	<p>FLOOD PLAIN QUALITY</p> <input type="checkbox"/> FOREST / WAMP [3] <input type="checkbox"/> SHRUB / OLD FIELD [2] <input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1] <input type="checkbox"/> FENCED PASTURE [1] <input type="checkbox"/> OPEN PASTURE, ROWCROP [0]	<p>CONSERVATION TILLAGE</p> <input type="checkbox"/> CONSERVATION TILLAGE [1] <input type="checkbox"/> URBAN OR INDUSTRIAL [0] <input type="checkbox"/> MINING / CONSTRUCTION [0]	<p>Riparian</p> <div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center; margin: 10px;"> 4.5 </div> <p>Maximum 10</p>
---	--	--	--	--

Comments: 2.5 0.25

5) POOL / GLIDE AND RIFFLE / RUN QUALITY

<p>MAXIMUM DEPTH</p> <p>Check ONE (ONLY)</p> <input checked="" type="checkbox"/> > 1m [6] <input type="checkbox"/> 0.7-1m [4] <input type="checkbox"/> 0.4-0.7m [2] <input type="checkbox"/> 0.2-0.4m [1] <input type="checkbox"/> < 0.2m [0]	<p>CHANNEL WIDTH</p> <p>Check ONE (Or 2 & average)</p> <input type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2] <input checked="" type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1] <input type="checkbox"/> POOL WIDTH < RIFFLE WIDTH [0]	<p>CURRENT VELOCITY</p> <p>Check ALL that apply</p> <input type="checkbox"/> TORRENTIAL [-1] <input type="checkbox"/> VERY FAST [1] <input type="checkbox"/> FAST [1] <input checked="" type="checkbox"/> MODERATE [1]	<p>RECREATION POTENTIAL</p> <input checked="" type="checkbox"/> Primary Contact <input type="checkbox"/> Secondary Contact <p>(circle one and comment on back)</p>	<p>Pool / Current</p> <div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center; margin: 10px;"> 12 </div> <p>Maximum 12</p>
--	---	--	---	---

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species:

<p>RIFFLE DEPTH</p> <input checked="" type="checkbox"/> BEST AREAS > 10cm [2] <input type="checkbox"/> BEST AREAS 5-10cm [1] <input type="checkbox"/> BEST AREAS < 5cm [metric=0]	<p>RUN DEPTH</p> <input checked="" type="checkbox"/> MAXIMUM > 50cm [2] <input type="checkbox"/> MAXIMUM < 50cm [1]	<p>RIFFLE / RUN SUBSTRATE</p> <input checked="" type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2] <input type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1] <input type="checkbox"/> UNSTABLE (e.g., Fine Gravel, Sand) [0]	<p>RIFFLE / RUN EMBEDDEDNESS</p> <input type="checkbox"/> NONE [2] <input type="checkbox"/> LOW [1] <input type="checkbox"/> MODERATE [0] <input type="checkbox"/> EXTENSIVE [-1]	<p>Riffle / Run</p> <div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center; margin: 10px;"> 5.5 </div> <p>Maximum 8</p>
--	---	---	---	---

Comments: _____

6) GRADIENT (1.75 ft/m) VERY LOW - LOW [2-4] MODERATE [6-10] HIGH - VERY HIGH [10-6]

DRAINAGE AREA (743 mi²)

% POOL: % GLIDE:

% RUN: % RIFFLE:

Gradient

10

Maximum 10

AJ SAMPLED REACH

Check ALL that apply

METHOD

BJAT 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

SEGGHI DEPTH

CANOPY

meters

1st _____ cm

2nd _____ cm

CJ RECREATION

AREA DEPTH

POOL: >100ft >3ft

> 85% - OPEN 55% - 85% 30% - 45% 10% - 30% < 10% - CLOSED

BJ AESTHETICS

NUISANCE ALGAE INVASIVE MACROPHYTES EXCESS TURBIDITY DISCOLORATION FOAM / SCUM OIL SHEEN TRASH / LITTER NUISANCE ODOR SLUDGE DEPOSITS GSOs/BSOs/OUTFALLS

DJ MAINTENANCE

Circle some & COMMENT

PUBLIC / PRIVATE / BOTH / NA
ACTIVE / HISTORIC / BOTH / NA
YOUNG-SUCCESSION-OLD
SPRAY / SNAG / REMOVED
MODIFIED / DIPPED OUT / NA
LEVEED / ONE-SIDED
RELOCATED / GUTOFFS
MOVING-BEDLOAD-STABLE
ARMoured / SLUMPS
ISLANDS / SCoured
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 H₂O / TILE / H₂O TABLE
ACID / MINE / QUARRY / FLOW
NATURAL / WETLAND / STAGNANT
PARK / GOLF / LAWN / HOME
ATMOSPHERE / DATA PAUCITY

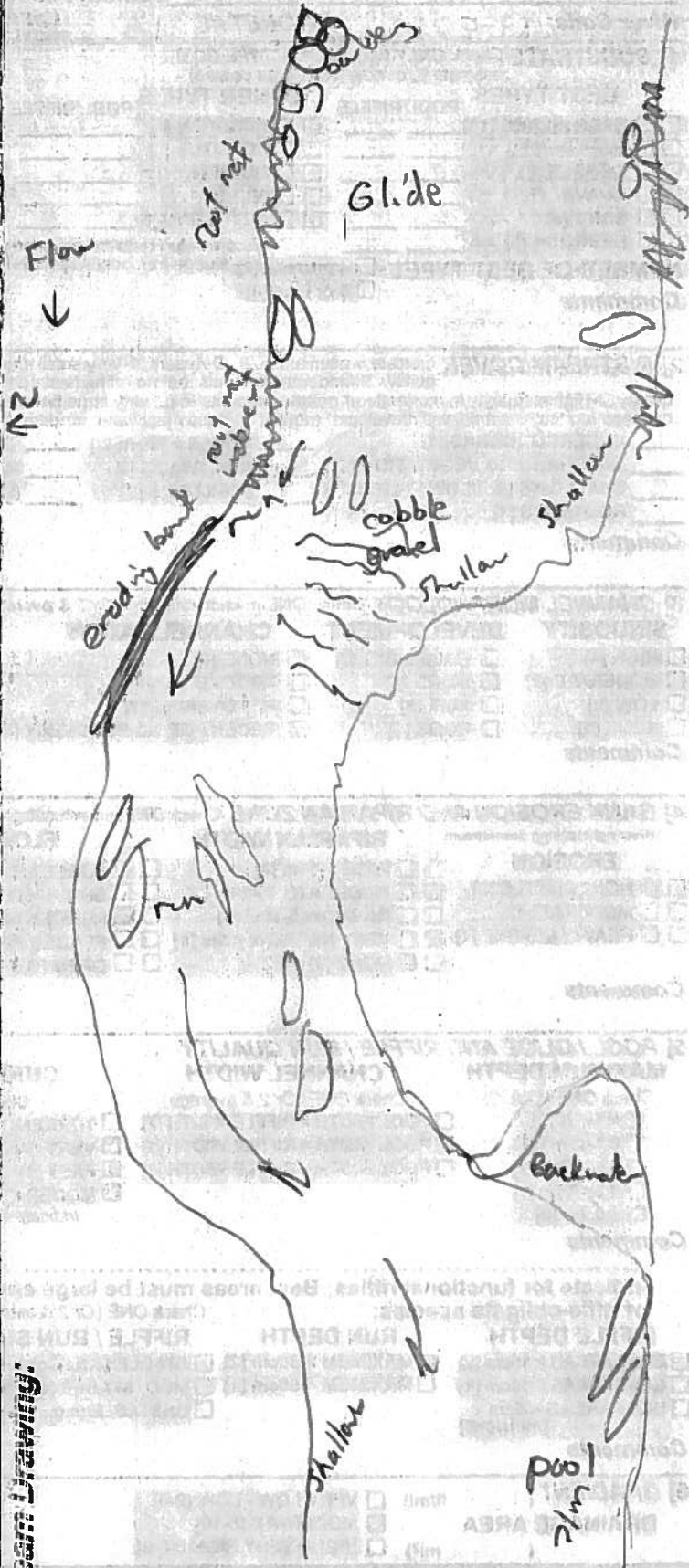
FJ MEASUREMENTS

width depth max. depth bankfull width bankfull depth W/D ratio bankfull max. depth floodprone x² width entrench. ratio

Legacy Tree:

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

Stream Drawing:



Stream & Location: Cuyahoga River DS of Southside, WTC RM: 10.10 Date: 8/13/20

Mallon

Scorer's Full Name & Affiliation: Northeast Ohio Regional Sewer District

River Code: 19-001-000 STORET #: F99002 Lat./Long.: 41.4242 181.6638

Office Verified location

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

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

Check ONE (Or 2 & average)

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

Comments: _____

14

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

Comments: _____

12

Cover Maximum 20

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

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

Comments: _____

13.5

Channel Maximum 20

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

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

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

Comments: 3 2.75 0.25

6

Riparian Maximum 10

5) POOL / GLIDE AND RIFFLE / RUN QUALITY

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

Indicate for reach - pools and riffles.

Comments: _____

11

Pool / Current Maximum 12

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species:

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

Check ONE (Or 2 & average) NO RIFFLE [metric=0]

Comments: _____

6

Riffle / Run Maximum 8

6) GRADIENT (0.9 ft/m) VERY LOW - LOW [2-4] MODERATE [6-10] HIGH - VERY HIGH [10-6]

DRAINAGE AREA (744 mi²) VERY LOW - LOW [2-4] MODERATE [6-10] HIGH - VERY HIGH [10-6]

%POOL: %GLIDE:

%RUN: %RIFFLE:

8

Gradient Maximum 10

AJ SAMPLED REACH

Check ALL that apply

METHOD

- BOAT
- WADE
- L. LINE
- OTHER

STAGE

- 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
- 65% - 85%
- 30% - 65%
- 10% - 30%
- < 10% - CLOSED

1st pass _____ cm

2nd pass _____ cm

CJ RECREATION

AREA DEPTH

POOL: >100m >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 / SLUMPS
- ISLANDS / SCOURED
- IMPOUNDED / DESICCATED
- FLOOD CONTROL / DRAINAGE

EJ ISSUES

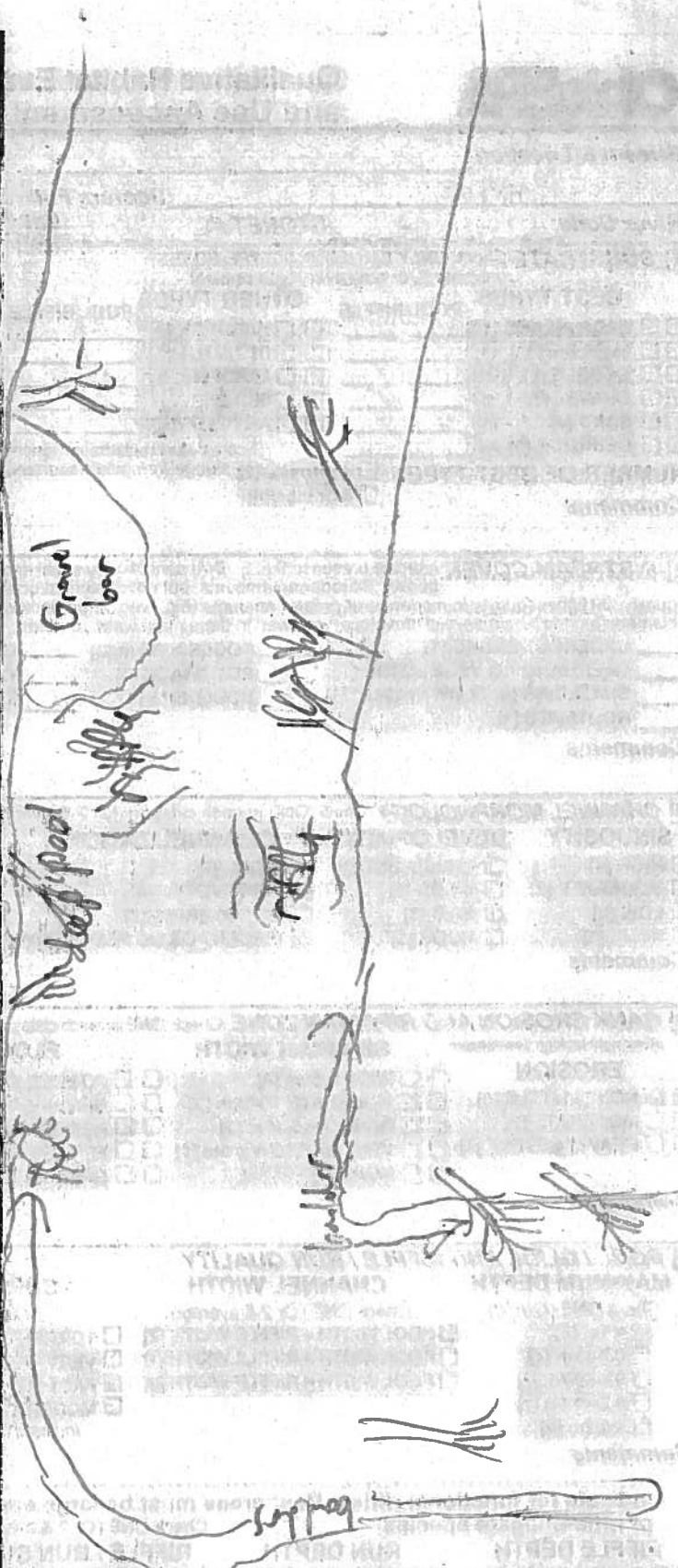
- WWTP / CSO / NPDES / INDUSTRY
- HARDENED / URBAN / DIRT & GRIME
- CONTAMINATED / LANDFILL
- BMPs-CONSTRUCTION-SEDIMENT
- LOGGING / IRRIGATION / COOLING
- BANK / EROSION / SURFACE
- FALSE BANK / MANURE / LAGOON
- WASH H₂O / TILE / H₂O TABLE
- ACID / MINE / QUARRY / FLOW
- NATURAL / WETLAND / STAGNANT
- PARK / GOLF / LAWN / HOME
- ATMOSPHERE / DATA FAUCITY

FJ MEASUREMENTS

- X width
- X depth
- rmax. depth
- X bankfull width
- bankfull X depth
- W/D ratio
- bankfull max. depth
- floodprone X² width
- entrench. ratio

Legacy Tree:

Stream Drawing:



Stream & Location: CUMANOCA, US OF BIG CREEK RM: 8.60 Date: 8/13/90

Scorers Full Name & Affiliation: JETH MOTTEN, JOE SCARLE Northeast Ohio Regional Sewer District

River Code: 19-001-000 STORET #200025 Lat/ Long: 41.438 181.6680

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

Substrate assessment grid with categories: BEST TYPES, OTHER TYPES, ORIGIN, and QUALITY. Includes checkboxes for various substrate types and a final score of 13.

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.

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

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

Channel Morphology assessment grid with categories: SINUOSITY, DEVELOPMENT, CHANNELIZATION, STABILITY. Includes checkboxes and a final score of 17.

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. Includes checkboxes and a final score of 7.25.

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

Pool / Glide and Riffle / Run Quality assessment grid with categories: MAXIMUM DEPTH, CHANNEL WIDTH, CURRENT VELOCITY, Recreation Potential. Includes checkboxes and a final score of 11.

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species:

Riffle / Run Quality assessment grid with categories: RIFFLE DEPTH, RUN DEPTH, RIFFLE / RUN SUBSTRATE, RIFFLE / RUN EMBEDDEDNESS. Includes checkboxes and a final score of 4.

6] GRADIENT (2.03 ft/mi) DRAINAGE AREA (745 m^2) Includes checkboxes for gradient levels and percentage fields for POOL, GLIDE, RUN, and RIFFLE. Includes a final score of 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

BJAT WADE L LINE OTHER

STAGE

1st - sample pass - 2nd

HIGH MP 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

1st _____ cm 2nd _____ cm

GANOPY

> 85% - OPEN 65% - 85% 30% - 65% 10% - 30% < 10% - CLOSED

CJ RECREATION AREA DEPTH

POOL: > 100R2 > 3ft

BJ AESTHETICS

NUISANCE ALGAE INVASIVE MACROPHYTES EXCESS TURBIDITY DISCOLORATION FOAM / SCUM OIL SHEEN TRASH / LITTER NUISANCE ODOR SLUDGE DEPOSITS CSOs/ISSOs/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 / SLUMPS ISLANDS / SCOURED FLOOD/CONTROL / DRAINAGE

Circle some & COMMENT

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 H₂O / TILE / H₂O TABLE ACID / MINE / QUARRY / FLOW NATURAL / WETLAND / STAGNANT PARK / GOLF / LAWN / HOME ATMOSPHERE / DATA PAUCITY

FJ MEASUREMENTS

X width X depth max. depth X bankfull width bankfull X depth W/D ratio bankfull max. depth flood-prone X² width entrench. ratio

Legacy Tree:

Stream Drawing

