

Stream & Location: Euclid Creek MB Unamed Trib DS of Mayfield Road **RM:** 1.50 **Date:** 8/28/23

Mark Matfeson

Scorers Full Name & Affiliation: Northeast Ohio Regional Sewer District

River Code: 19-041-000 **STORET #:** 302508 **Lat./ Long.:** 41.5320 -81.4970 Office verified location

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

Check ONE (Or 2 & average)

| | | | | | |
|--|---|--|---|---|--|
| BEST TYPES | POOL RIFFLE | OTHER TYPES | POOL RIFFLE | ORIGIN | QUALITY |
| <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"/> 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 checked="" type="checkbox"/> TILLS [1] | <input type="checkbox"/> MODERATE [-1] |
| <input checked="" type="checkbox"/> COBBLE [8] | <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> | <input type="checkbox"/> MUCK [2] | <input type="checkbox"/> | <input type="checkbox"/> WETLANDS [0] | <input checked="" type="checkbox"/> NORMAL [0] |
| <input checked="" type="checkbox"/> GRAVEL [7] | <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> | <input type="checkbox"/> SILT [2] | <input 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 type="checkbox"/> | (Score natural substrates; ignore sludge from point-sources) | | <input type="checkbox"/> RIP/RAP [0] | <input type="checkbox"/> MODERATE [-1] |

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

Comments: 8+7+2+1+0+0

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)

| | | | |
|--|--|---|---|
| <input checked="" type="checkbox"/> UNDERCUT BANKS [1] | <input type="checkbox"/> POOLS > 70cm [2] | <input type="checkbox"/> OXBOWS, BACKWATERS [1] | <input checked="" type="checkbox"/> EXTENSIVE >75% [11] |
| <input type="checkbox"/> OVERHANGING VEGETATION [1] | <input type="checkbox"/> ROOTWADS [1] | <input type="checkbox"/> AQUATIC MACROPHYTES [1] | <input checked="" type="checkbox"/> MODERATE 25-75% [7] |
| <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"/> SPARSE 5-<25% [3] |
| <input checked="" type="checkbox"/> ROOTMATS [1] | | | <input type="checkbox"/> NEARLY ABSENT <5% [1] |

Comments: 1+1+2+1+7

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

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

Comments: 2.5+5+3+2.5

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

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

Comments: 3+2+1

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

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

Comments: 6+2+1+1

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]

| | | | |
|---|--|--|---|
| RIFFLE DEPTH | RUN DEPTH | RIFFLE / RUN SUBSTRATE | RIFFLE / RUN EMBEDDEDNESS |
| <input checked="" type="checkbox"/> BEST AREAS > 10cm [2] | <input checked="" type="checkbox"/> MAXIMUM > 50cm [2] | <input checked="" 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 type="checkbox"/> EXTENSIVE [-1] |

Comments: 2+2+1.5+1

6] GRADIENT (38.50 ft/mi) VERY LOW - LOW [2-4] **% POOL:** **% GLIDE:**

DRAINAGE AREA (1.20 mi²) MODERATE [6-10] **% RUN:** **% RIFFLE:**

HIGH - VERY HIGH [10-6] **Gradient Maximum** 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

CLARITY

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

CANOPY

- > 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

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
- ARMOURD / SLJUMPS
- ISLANDS / SCOURD
- 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 PAUCITY

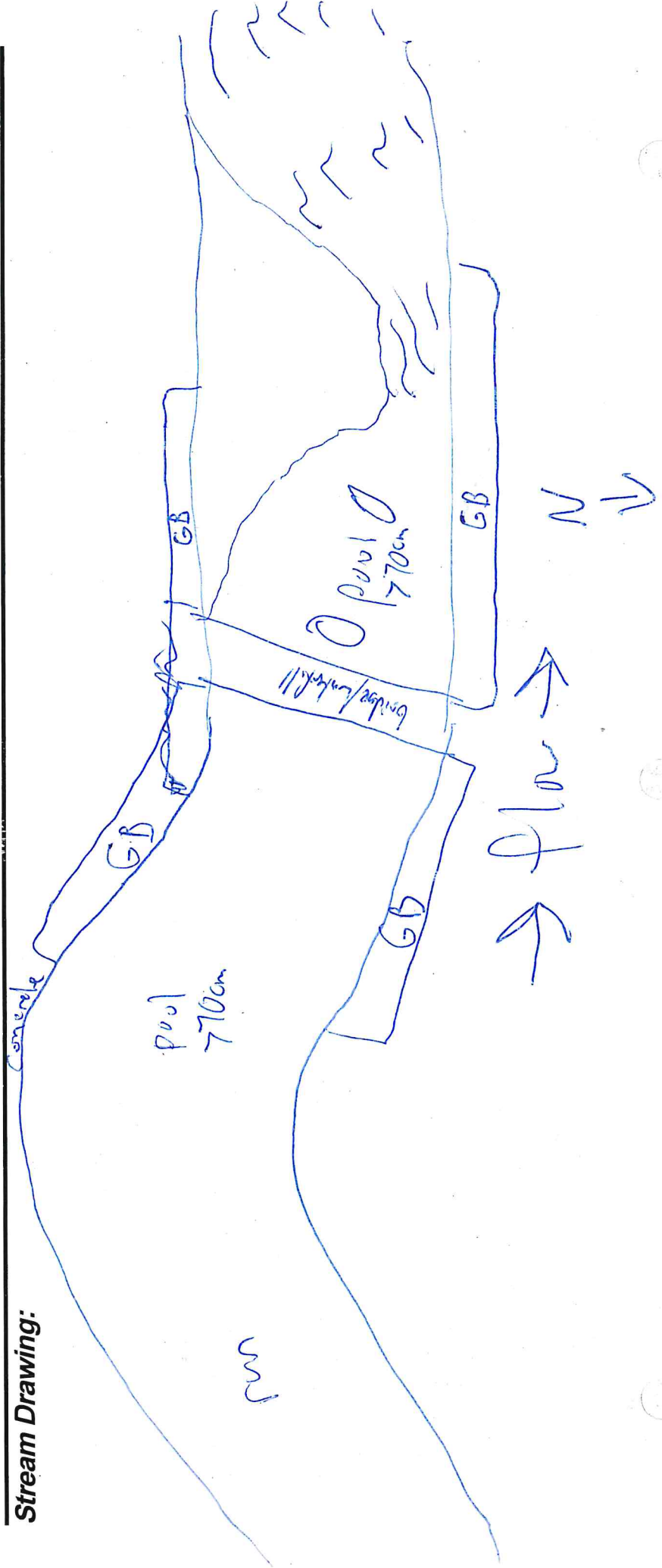
FJ MEASUREMENTS

- \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

CJ RECREATION

AREA DEPTH POOL: >100ft² >3ft

Stream Drawing:



Entered 12/9/23

Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 60.5

Stream & Location: Euclid Creek EB DS of Richmond Road RM: 2.80 Date: 8/26/23

Scorers Full Name & Affiliation: J. T. Lepore, S. Robinson, J. Harrison Northeast Ohio Regional Sewer District

River Code: 19-041-000 STORET #: 303283 Lat./Long.: 41.5743 -81.4999 Office verified location

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

Substrate assessment table with categories: BEST TYPES, OTHER TYPES, ORIGIN, POOL RIFFLE, QUALITY. Includes handwritten scores and a 'Substrate' box with value 12.5.

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

Instream Cover assessment table with categories: UNDERCUT BANKS, OVERHANGING VEGETATION, SHALLOWS, ROOTMATS, POOLS, ROOTWADS, BOULDERS, OXBOWS, AQUATIC MACROPHYTES, LOGS OR WOODY DEBRIS. Includes handwritten score 4+3 and a 'Cover Maximum' box with value 7.

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

Channel Morphology assessment table with categories: SINUOSITY, DEVELOPMENT, CHANNELIZATION, STABILITY. Includes handwritten comment 'shallow riffles' and a 'Channel Maximum' box with value 15.

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 table with categories: EROSION, RIPARIAN WIDTH, FLOOD PLAIN QUALITY. Includes handwritten score 3+2.5+0.5 and a 'Riparian Maximum' box with value 6.

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

Pool / Glide and Riffle / Run Quality assessment table with categories: MAXIMUM DEPTH, CHANNEL WIDTH, CURRENT VELOCITY. Includes a 'Recreation Potential' box with 'Primary Contact' and 'Secondary Contact' options, and a 'Pool / Current Maximum' box with value 11.

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

Functional Riffles assessment table with categories: RIFFLE DEPTH, RUN DEPTH, RIFFLE / RUN SUBSTRATE, RIFFLE / RUN EMBEDDEDNESS. Includes handwritten score 1+1+2+1 and a 'Riffle / Run Maximum' box with value 5.

6] GRADIENT (1.66 ft/mi) DRAINAGE AREA (7.05 mi²) %POOL: %GLIDE: %RUN: %RIFFLE: Gradient Maximum 10

Above upper bound

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

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
- >100ft²
- >3ft

Stream Drawing:

Flow ←



Comment RE: Reach consistency/Is reach typical of stream?, Recreation/Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.
 Can 15 predominantly shale bedrock with numerous natural beautiful waterfalls. The gradient relief in this stream is very impressive, and most likely drops nearly 30 ft throughout the zone. The few pools in the zone were loaded with fish, but otherwise abundance was fairly low.

FJ MEASUREMENTS

| EJ ISSUES | FJ MEASUREMENTS |
|---|--------------------------|
| WWTP / CSO / NPDES / INDUSTRY | \bar{x} width |
| HARDENED / URBAN / DIRT&GRIME | \bar{x} depth |
| CONTAMINATED / LANDFILL | max. depth |
| BMPs-CONSTRUCTION-SEDIMENT | \bar{x} bankfull width |
| LOGGING / IRRIGATION / COOLING | bankfull \bar{x} depth |
| BANK / EROSION / SURFACE | W/D ratio |
| FALSE BANK / MANURE / LAGOON | bankfull max. depth |
| WASH H ₂ O / TILE / H ₂ O TABLE | floodprone x^2 width |
| ACID / MINE / QUARRY / FLOW | entrench. ratio |
| NATURAL / WETLAND / STAGNANT | Legacy Tree: |
| PARK / GOLF / LAWN / HOME | |
| ATMOSPHERE / DATA PAUCITY | |

DJ MAINTENANCE

| 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 / CUTOFFS | |
| MOVING-BEDLOAD-STABLE | |
| ARMOURED / SLUMPS | |
| ISLANDS / SCoured | |
| IMPOUNDED / DESICCATED | |
| FLOOD CONTROL / DRAINAGE | |

BJ AESTHETICS

| |
|---|
| <input type="checkbox"/> NUISANCE ALGAE |
| <input type="checkbox"/> INVASIVE MACROPHYTES |
| <input type="checkbox"/> EXCESS TURBIDITY |
| <input type="checkbox"/> DISCOLORATION |
| <input type="checkbox"/> FOAM / SCUM |
| <input type="checkbox"/> OIL SHEEN |
| <input type="checkbox"/> TRASH / LITTER |
| <input type="checkbox"/> NUISANCE ODOR |
| <input type="checkbox"/> SLUDGE DEPOSITS |
| <input type="checkbox"/> CSOs/SSOs/OUTFALLS |



Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: **64**

Stream & Location: Euclid Creek EB US of Highland Road

RM: 0.25 Date: 8/29/03

Mark Matheson

Scorers Full Name & Affiliation: Northeast Ohio Regional Sewer District

River Code: 29-047-000 STORET #: 301754 Lat./Long.: 41.5628 -81.5277

Office verified location

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

Check ONE (Or 2 & average)

| | | | | | |
|---|---|---|---|---|---|
| BEST TYPES | POOL RIFFLE | OTHER TYPES | POOL RIFFLE | ORIGIN | QUALITY |
| <input type="checkbox"/> BLDR / SLABS [10] | <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> | <input type="checkbox"/> HARDPAN [4] | <input checked="" type="checkbox"/> <input checked="" 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 checked="" type="checkbox"/> NORMAL [0] |
| <input type="checkbox"/> GRAVEL [7] | <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> | <input type="checkbox"/> SILT [2] | <input type="checkbox"/> <input type="checkbox"/> | <input type="checkbox"/> HARDPAN [0] | <input type="checkbox"/> FREE [1] |
| <input type="checkbox"/> SAND [6] | <input checked="" type="checkbox"/> <input 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 checked="" type="checkbox"/> BEDROCK [5] | <input checked="" type="checkbox"/> <input type="checkbox"/> | (Score natural substrates; ignore) | | <input type="checkbox"/> RIP/RAP [0] | <input checked="" type="checkbox"/> MODERATE [-1] |
| NUMBER OF BEST TYPES: <input checked="" type="checkbox"/> 4 or more [2] <input type="checkbox"/> 3 or less [0] | | | | EMBEDDEDNESS | <input type="checkbox"/> NORMAL [0] |
| Comments | | | | <input type="checkbox"/> SHALE [-1] | <input type="checkbox"/> NONE [1] |
| <u>5+8+2+1+0-1</u> | | | | <input type="checkbox"/> COAL FINES [-2] | Substrate |

Substrate Maximum 20 **15**

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)

| | | | |
|--|---|---|---|
| <input type="checkbox"/> UNDERCUT BANKS [1] | <input checked="" type="checkbox"/> POOLS > 10cm [2] | <input type="checkbox"/> OXBOWS, BACKWATERS [1] | <input type="checkbox"/> EXTENSIVE >75% [11] |
| <input type="checkbox"/> OVERHANGING VEGETATION [1] | <input type="checkbox"/> ROOTWADS [1] | <input type="checkbox"/> AQUATIC MACROPHYTES [1] | <input type="checkbox"/> MODERATE 25-75% [7] |
| <input checked="" type="checkbox"/> SHALLOWS (IN SLOW WATER) [1] | <input checked="" type="checkbox"/> BOULDERFIELDS [1] | <input type="checkbox"/> LOGS OR WOODY DEBRIS [1] | <input checked="" type="checkbox"/> SPARSE 5-<25% [3] |
| <input type="checkbox"/> ROOTMATS [1] | | | <input type="checkbox"/> NEARLY ABSENT <5% [1] |

Channel Maximum 20 **7**

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

| | | | |
|--|---|--|--|
| SINUOSITY | DEVELOPMENT | CHANNELIZATION | STABILITY |
| <input type="checkbox"/> HIGH [4] | <input checked="" type="checkbox"/> EXCELLENT [7] | <input checked="" type="checkbox"/> NONE [6] | <input checked="" type="checkbox"/> HIGH [3] |
| <input 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 type="checkbox"/> LOW [1] |
| <input checked="" type="checkbox"/> NONE [1] | <input type="checkbox"/> POOR [1] | <input type="checkbox"/> RECENT OR NO RECOVERY [1] | |

Channel Maximum 20 **15**

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

| | | | |
|---|---|--|--|
| EROSION | RIPARIAN WIDTH | FLOOD PLAIN QUALITY | CONSERVATION TILLAGE |
| <input checked="" type="checkbox"/> NONE / LITTLE [3] | <input checked="" type="checkbox"/> WIDE > 50m [4] | <input type="checkbox"/> FOREST, SWAMP [3] | <input type="checkbox"/> URBAN OR INDUSTRIAL [0] |
| <input type="checkbox"/> MODERATE [2] | <input checked="" type="checkbox"/> MODERATE 10-50m [3] | <input checked="" type="checkbox"/> SHRUB OR OLD FIELD [2] | <input type="checkbox"/> MINING / CONSTRUCTION [0] |
| <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 type="checkbox"/> NONE [0] | <input type="checkbox"/> OPEN PASTURE, ROWCROP [0] | |

Riparian Maximum 10 **6.5**

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

MAXIMUM DEPTH

Check ONE (ONLY!)

> 1m [6]
 0.7-<1m [4]
 0.4-<0.7m [2]
 0.2-<0.4m [1]
 < 0.2m [0]

CHANNEL WIDTH

Check ONE (Or 2 & average)

POOL WIDTH > RIFFLE WIDTH [2]
 POOL WIDTH = RIFFLE WIDTH [1]
 POOL WIDTH < RIFFLE WIDTH [0]

CURRENT VELOCITY

Check ALL that apply

TORRENTIAL [-1] SLOW [1]
 VERY FAST [1] INTERSTITIAL [-1]
 FAST [1] INTERMITTENT [-2]
 MODERATE [1] EDDIES [1]

Indicate for reach - pools and riffles.

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

Pool / Current Maximum 12 **11**

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]

| | | | |
|---|--|--|--|
| RIFFLE DEPTH | RUN DEPTH | RIFFLE / RUN SUBSTRATE | RIFFLE / RUN EMBEDDEDNESS |
| <input checked="" type="checkbox"/> BEST AREAS > 10cm [2] | <input checked="" type="checkbox"/> MAXIMUM > 50cm [2] | <input checked="" 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 type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1] | <input type="checkbox"/> LOW [1] |
| <input type="checkbox"/> BEST AREAS < 5cm [metric=0] | | <input type="checkbox"/> UNSTABLE (e.g., Fine Gravel, Sand) [0] | <input checked="" type="checkbox"/> MODERATE [0] |
| | | | <input type="checkbox"/> EXTENSIVE [-1] |

Riffle / Run Maximum 8 **5.5**

6) **GRADIENT** (83.33 ft/mi) VERY LOW - LOW [2-4]
DRAINAGE AREA (42.56 mi²) MODERATE [6-10]
 HIGH - VERY HIGH [10-6]

%POOL: %GLIDE:
%RUN: %RIFFLE:

Gradient Maximum 10 **4**

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

- < 20 cm
- 20-40 cm
- 40-70 cm
- > 70 cm/CTB
- SECCHI DEPTH

CANOPY

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

CJ RECREATION

POOL: >100ft² >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

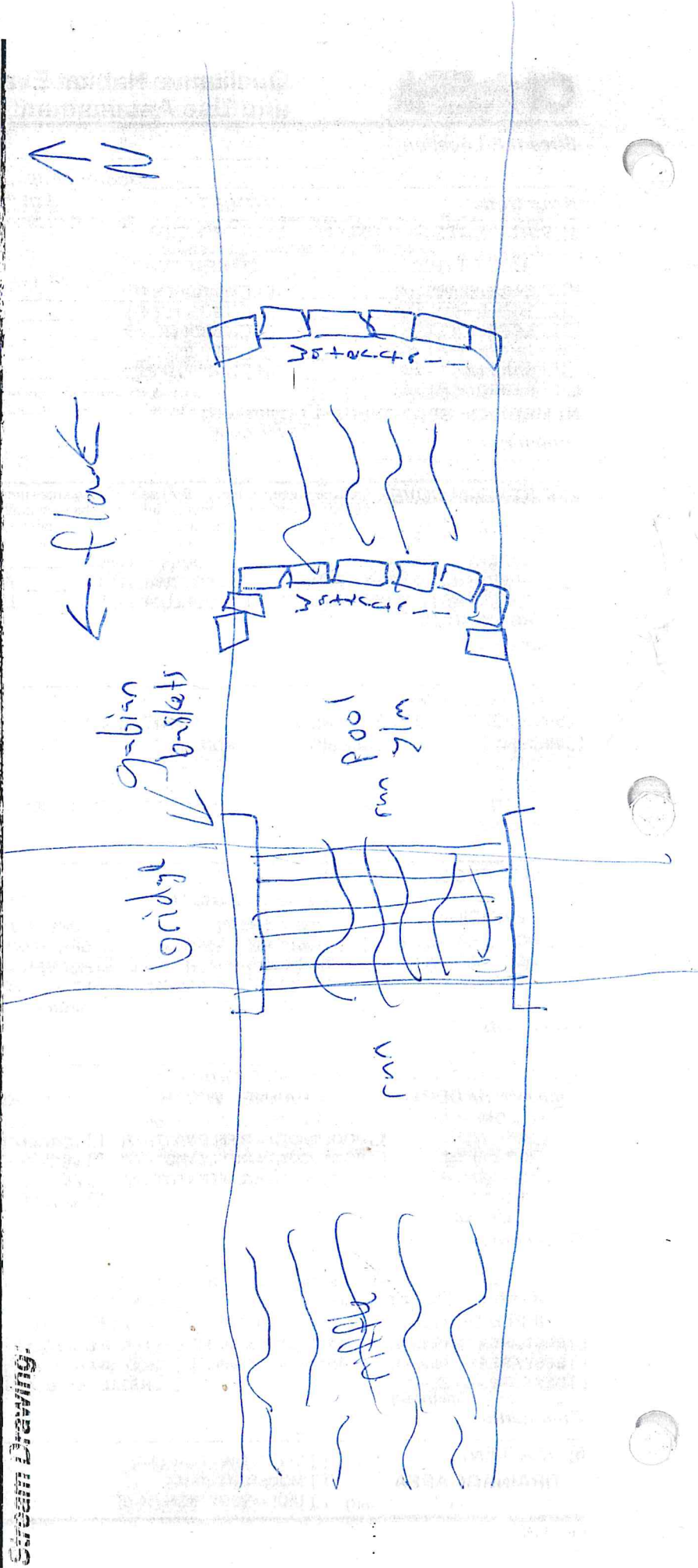
- WWTP / CSO / NPDES / INDUSTRY
- HARDENED / URBAN / DIRT&GRIME
- CONTAMINATED / LANDFILL
- BMPs-CONSTRUCTION-SEDIMENT
- LOGGING / IRRIGATION / COOLING
- BANK / EROSION / SURFACE
- FALSE BANK / MANURE / LAGOON
- WASH H₂O / TILE / H₂O TABLE
- ACID / MINE / QUARRY / FLOW
- NATURAL / WETLAND / STAGNANT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



Stream & Location: Exchd Creek USDS of Mayfield Road

RM: 6.90 Date: 7/10/23

JUSTIN TELEP

Scorers Full Name & Affiliation: Northeast Ohio Regional Sewer District

River Code: 19-041-000 STORET #: F01647 Lat./Long.: 41.5196 -81.5215

Office verified location

1] SUBSTRATE

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

Check ONE (Or 2 & average)

| | | | | | | | | | | | |
|-------------------------------------|--------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|
| BEST TYPES | | POOL RIFFLE | | OTHER TYPES | | POOL RIFFLE | | ORIGIN | | QUALITY | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
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| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
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NUMBER OF BEST TYPES: 4 or more [2] 3 or less [0]

Comments: 7+8+2+0+0-0.5

Substrate
16.5
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.

AMOUNT
Check ONE (Or 2 & average)

| | | | | | | | | | | | |
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| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
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| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Comments: 1+1+1+3

Cover
6
Maximum 20

3] CHANNEL MORPHOLOGY

Check ONE in each category (Or 2 & average)

| | | | | | | | | | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
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| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
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Comments: 3+4+6+3

Channel
16
Maximum 20

4] BANK EROSION AND RIPARIAN ZONE

Check ONE in each category for EACH BANK (Or 2 per bank & average)

| | | | | | | | | | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
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| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Comments: 2.5+3/2 + 2.5 + 1

Riparian
6.75
Maximum 10

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

| | | | | | | | | | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
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| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Comments: 2+1+2

Recreation Potential
Primary Contact
Secondary Contact
Pool / Current
5
Maximum 12

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

| | | | | | | | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
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| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Comments: 2+1+2+0

Riffle / Run
5
Maximum 8

6] GRADIENT (19.60 ft/mi) VERY LOW - LOW [2-4] MODERATE [6-10] HIGH - VERY HIGH [10-6]

DRAINAGE AREA (3.90 mi²)

%POOL: 10 %GLIDE: 40

%RUN: 30 %RIFFLE: 30

Gradient
10
Maximum 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

CLARITY

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

meters

CANOPY

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

CJ RECREATION

AREA DEPTH POOL: >100ft² >3ft

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 PAUCITY

FJ MEASUREMENTS

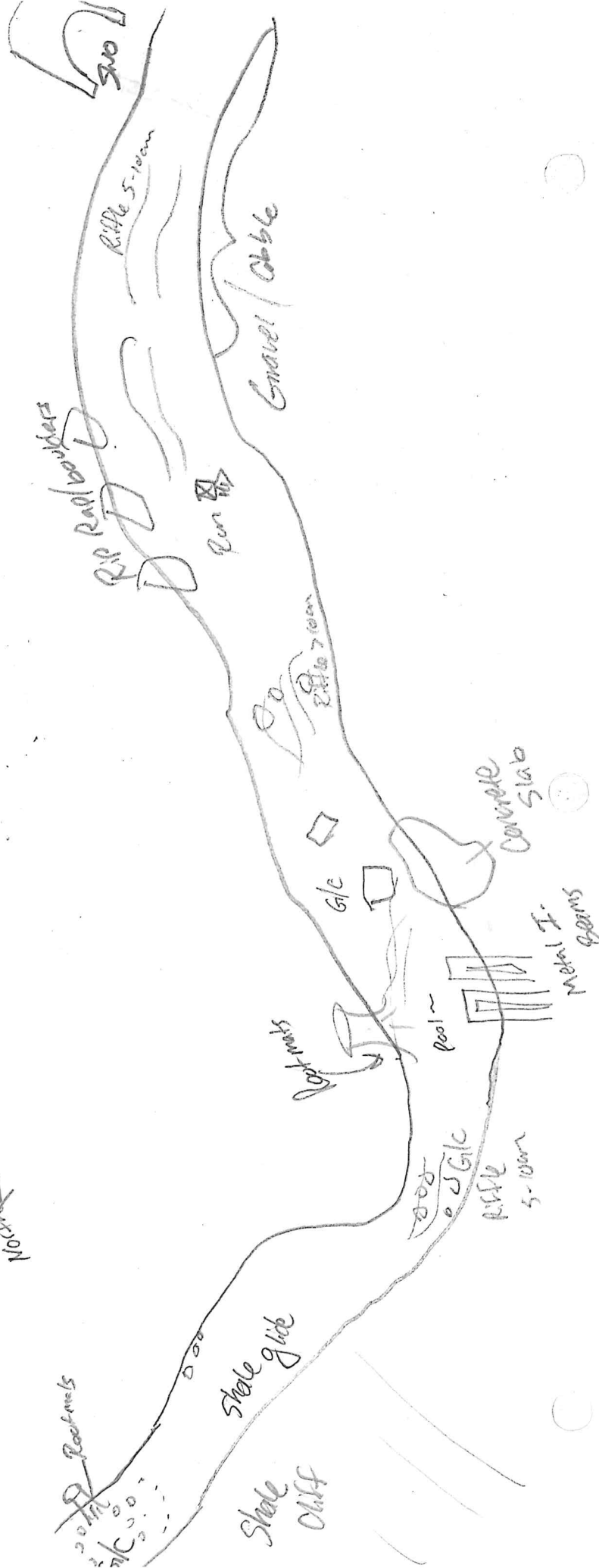
- \bar{x} width
- \bar{x} depth
- max. depth
- \bar{x} bankfull width
- bankfull \bar{x} depth
- W/D ratio
- bankfull max. depth
- floodprone \bar{x}^2 width
- entrench. ratio
- Legacy Tree:

Circle some & COMMENT

Stream Drawing:

Flow ←

North ↑



Stream & Location: Euclid Creek US of confluence with the East Branch RM: 9.10 Date: 8/3/23

JUSTIN TELEP

Scorers Full Name & Affiliation: Northeast Ohio Regional Sewer District

River Code: 19-041-000 STORET #: F01648 Lat./Long.: 41.5672 -81.5315 Office verified location

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

Check ONE (Or 2 & average)

Substrate assessment table with categories: BEST TYPES, OTHER TYPES, POOL RIFFLE, ORIGIN, and QUALITY. Includes checkboxes for various substrate types and a circled score of 12.

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 table with categories: UNDERCUT BANKS, OVERHANGING VEGETATION, SHALLOWS, ROOTMATS, POOLS, ROOTWADS, BOULDERS, OXBOWS, BACKWATERS, AQUATIC MACROPHYTES, LOGS OR WOODY DEBRIS. Includes checkboxes and a circled score of 7.

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

Channel Morphology assessment table with categories: SINUOSITY, DEVELOPMENT, CHANNELIZATION, STABILITY. Includes checkboxes and a circled score of 11.

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 table with categories: EROSION, RIPARIAN WIDTH, FLOOD PLAIN QUALITY. Includes checkboxes and a circled score of 6.

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

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

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]

Riffle assessment table with categories: RIFFLE DEPTH, RUN DEPTH, RIFFLE / RUN SUBSTRATE, RIFFLE / RUN EMBEDDEDNESS. Includes checkboxes and a circled score of 4.

6] GRADIENT (47.60 ft/mi) DRAINAGE AREA (9.10 mi^2) %POOL: 25 %GLIDE: 50 %RUN: 15 %RIFFLE: 10 Gradient Maximum 10

AJ SAMPLED REACH

Check ALL that apply

- METHOD**
- BOAT
 - WADE
 - L. LINE
 - OTHER
- STAGE**
- HIGH
 - UP
 - NORMAL
 - LOW
 - DRY
- CLARITY**
- 1st --sample pass-- 2nd
- < 20 cm
 - 20-40 cm
 - 40-70 cm
 - > 70 cm/CTB
 - SECCHI DEPTH
- 1st _____ cm
- 2nd _____ cm

- DISTANCE**
- 0.5 Km
 - 0.2 Km
 - 0.15 Km
 - 0.12 Km
 - OTHER
- CANOPY**
- > 85%- OPEN
 - 55%-<85%
 - 30%-<55%
 - 10%-<30%
 - <10%- CLOSED
- CJ RECREATION** AREA DEPTH
- POOL: >100ft² >3ft

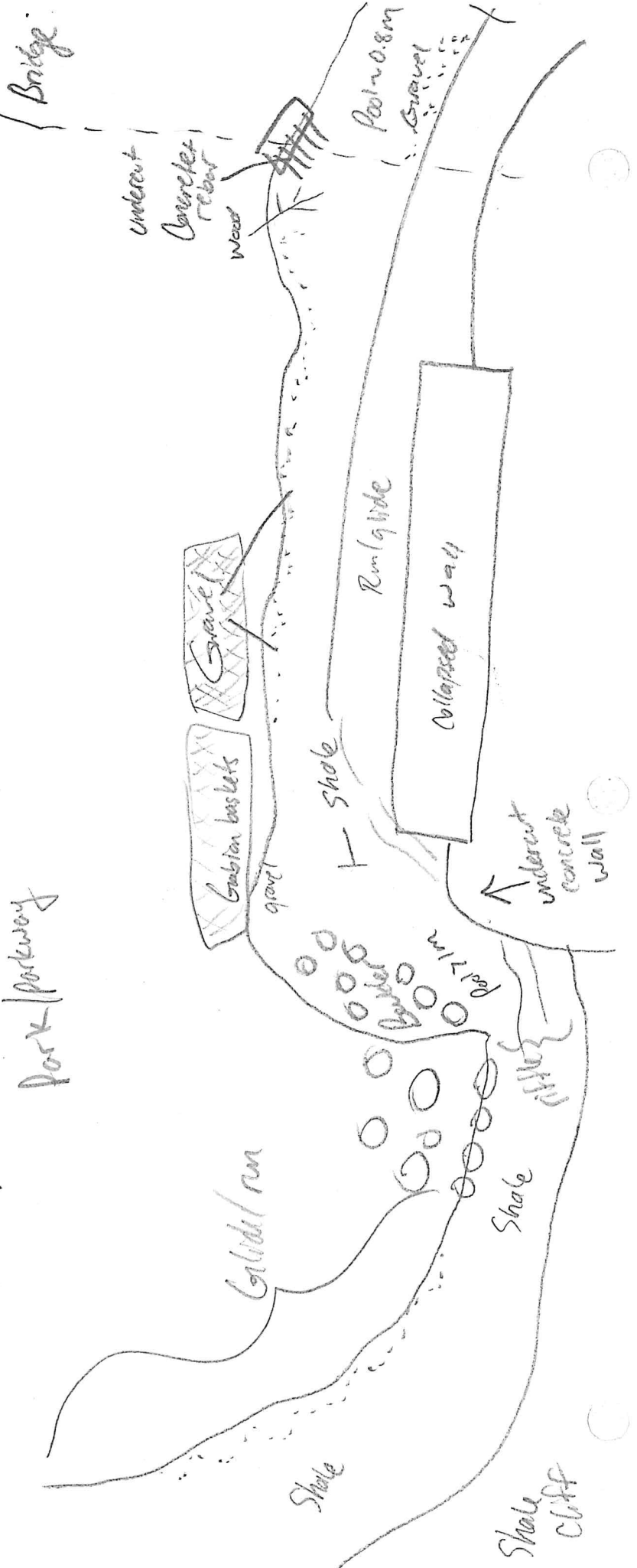
Comment RE: Reach consistency/Is reach typical of stream? Recreation/Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.

This sample location is within Evident Creek Reservation, but downstream of highly urban area.

The urban impacts on this stream is evident in the staining of substrates down to bedrock. In most of this reach, bedrock is the only substrate in the low flow channel, with gravel present along the margin. The mortar wall on RR and gabion baskets along RL are aging and the channel is recovering.

| DJ MAINTENANCE | EJ ISSUES | FJ MEASUREMENTS |
|---|---|--|
| 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 ARMORED / SLUMPS ISLANDS / SCOURED IMPOUNDED / DESICATED FLOOD CONTROL / DRAINAGE | 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 ₂ O / TILE / H ₂ O TABLE ACID / MINE / QUARRY / FLOW NATURAL / WETLAND / STAGNANT PARK / GOLF / LAWN / HOME ATMOSPHERE / DATA PAUCITY | x width x depth max. depth x bankfull width bankfull x depth W/D ratio bankfull max. depth floodprone x ² width entrench. ratio Legacy Tree: |

Stream Drawing: Flow →



Stream & Location: Euclid Creek US of Highland Road

RM: 2.70 Date: 8/29/03

Mark Mullen

Scorers Full Name & Affiliation: Northeast Ohio Regional Sewer District

River Code: 19-041-000 STORET #: 200138 Lat./Long.: 41.5658 -81.5358

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 handwritten scores and a 'Substrate Maximum 20' box with value 15.

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

AMOUNT

Check ONE (Or 2 & average)

Instream Cover assessment grid with categories: UNDERCUT BANKS, OVERHANGING VEGETATION, SHALLOWS, ROOTMATS, POOLS, ROOTWADS, BOULDERS, OXBOWS, AQUATIC MACROPHYTES, LOGS OR WOODY DEBRIS. Includes handwritten scores and a 'Cover Maximum 20' box with value 10.

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

Channel Morphology assessment grid with categories: SINUOSITY, DEVELOPMENT, CHANNELIZATION, STABILITY. Includes handwritten scores and a 'Channel Maximum 20' box with value 14.5.

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. Includes handwritten scores and a 'Riparian Maximum 10' box with value 7.

5) POOL / GLIDE AND RIFFLE / RUN QUALITY

Pool/Glide and Riffle/Run Quality assessment grid with categories: MAXIMUM DEPTH, CHANNEL WIDTH, CURRENT VELOCITY. Includes handwritten scores and a 'Pool / Current Maximum 12' box with value 11.

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

NO RIFFLE [metric=0]

Riffle/Run Quality assessment grid with categories: RIFFLE DEPTH, RUN DEPTH, RIFFLE / RUN SUBSTRATE, RIFFLE / RUN EMBEDDEDNESS. Includes handwritten scores and a 'Riffle / Run Maximum 8' box with value 6.5.

6) GRADIENT (69.20 ft/mi) DRAINAGE AREA (21.40 mi^2) Assessment grid with categories: GRADIENT, DRAINAGE AREA, % POOL, % GLIDE, % RUN, % RIFFLE. Includes handwritten scores and a 'Gradient Maximum 10' box with value 4.

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

- < 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

- POOL: >100ft² >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

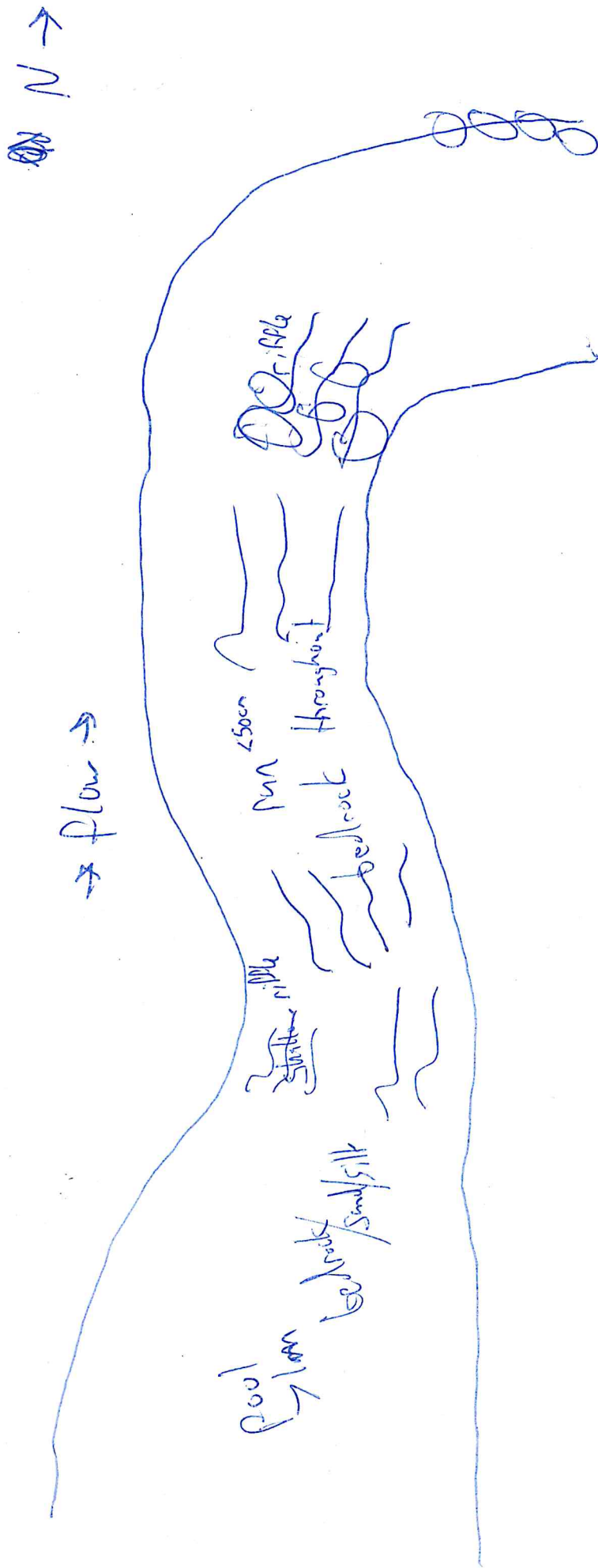
- WWTP / CSO / NPDES / INDUSTRY
- HARDENED / URBAN / DIRT&GRIME
- CONTAMINATED / LANDFILL
- BMPs-CONSTRUCTION-SEDIMENT
- LOGGING / IRRIGATION / COOLING
- BANK / EROSION / SURFACE
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- WASH H₂O / TILE / H₂O TABLE
- ACID / MINE / QUARRY / FLOW
- NATURAL / 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:



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

Stream & Location: Euclid Creek 100 ft US of St Clair ave RM: 1.65 Date: 8/3/23

Mark Matteson

Scorers Full Name & Affiliation: Northeast Ohio Regional Sewer District

River Code: 19-041-000 STORET #: 504250 Lat./Long.: 41.5738 -81.5470 Office verified location

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

Check ONE (Or 2 & average)

Substrate assessment table with categories: BEST TYPES, OTHER TYPES, POOL RIFFLE, ORIGIN, and QUALITY. Includes handwritten entries for gravel, sand, and bedrock, and a score of 175.

NUMBER OF BEST TYPES: 4 or more [2] sludge from point-sources) 3 or less [0]

Comments 7+8+2+1-0.5+0

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 table with categories: UNDERCUT BANKS, OVERHANGING VEGETATION, SHALLOWS, ROOTMATS, POOLS, ROOTWADS, BOULDERS, OXBOWS, AQUATIC MACROPHYTES, LOGS OR WOODY DEBRIS. Includes handwritten entries and a score of 9.

Comments 6+3

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

Channel morphology assessment table with categories: SINUOSITY, DEVELOPMENT, CHANNELIZATION, STABILITY. Includes handwritten entries and a score of 16.

Comments 2.5+5+6+2.5

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 table with categories: EROSION, RIPARIAN WIDTH, FLOOD PLAIN QUALITY. Includes handwritten entries and a score of 5.75.

Comments 2.5+2.5+0.75

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

Pool/glide and riffle/run quality assessment table with categories: MAXIMUM DEPTH, CHANNEL WIDTH, CURRENT VELOCITY. Includes handwritten entries and a score of 11.

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)

Riffle/run quality assessment table with categories: RIFFLE DEPTH, RUN DEPTH, RIFFLE / RUN SUBSTRATE, RIFFLE / RUN EMBEDDEDNESS. Includes handwritten entries and a score of 5.

Comments 2+1+1+1 lower end of zone shifts side to side w/ low flow channel

6] GRADIENT (16.20 ft/mi) DRAINAGE AREA (22.30 mi^2) Assessment table with categories: GRADIENT, DRAINAGE AREA, % POOL, % GLIDE, % RUN, % RIFFLE. Includes handwritten entries and a score of 10.

AJ SAMPLED REACH

Check ALL that apply

METHOD

- BOAT
- WADE
- L. LINE
- 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
- SECCHI DEPTH

DISTANCE

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

meters

CANOPY

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

CJ RECREATION

AREA DEPTH

POOL: >100ft² >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
- ARMORED / 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 PAUCITY

FJ MEASUREMENTS

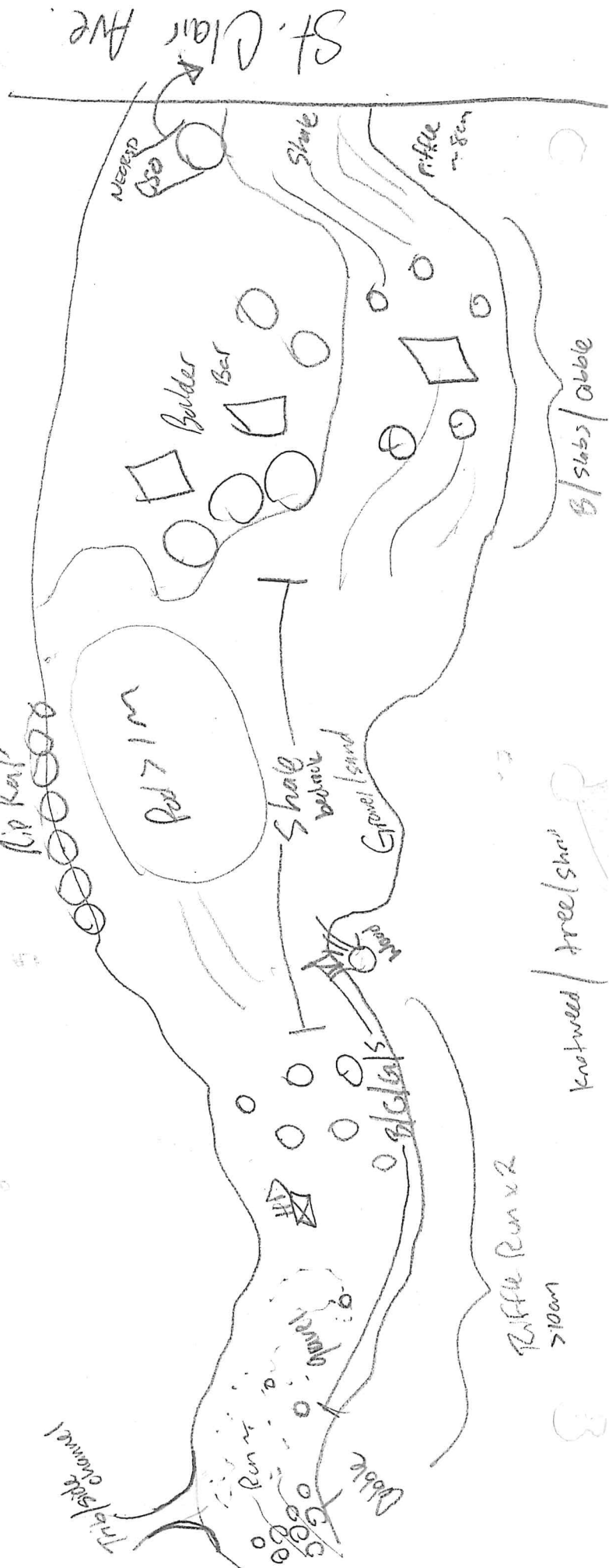
- \bar{x} width
- \bar{x} depth
- max. depth
- \bar{x} bankfull width
- bankfull \bar{x} depth
- W/D ratio
- bankfull max. depth
- floodprone \bar{x}^2 width
- entrench. ratio

Legacy Tree:

Stream Drawing:

Flow \rightarrow

North \rightarrow



Stream & Location: Euclid Creek (concrete structure US of Lakshare Blvd) RM: 200 Date: 7/14/23

JUSTIN TELEP

Scorers Full Name & Affiliation: Northeast Ohio Regional Sewer District

River Code: 19-041-000 STORET #: F02A48 Lat./ Long.: 41.5328 -81.5552 Office verified location

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

Check ONE (Or 2 & average)

Substrate assessment table with categories: BEST TYPES, POOL RIFFLE, OTHER TYPES, ORIGIN, and QUALITY. Includes checkboxes for various substrate types and a final score of 17.

Comments: 8+7+2+1+0-1

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

AMOUNT

Check ONE (Or 2 & average)

Instream Cover assessment table with categories: UNDERCUT BANKS, OVERHANGING VEGETATION, SHALLOWS, ROOTMATS, POOLS, ROOTWADS, BOULDERS, OXBOWS, BACKWATERS, AQUATIC MACROPHYTES, LOGS OR WOODY DEBRIS. Includes checkboxes and a final score of 7.

Comments: 4+3

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

Channel Morphology assessment table with categories: SINUOSITY, DEVELOPMENT, CHANNELIZATION, STABILITY. Includes checkboxes and a final score of 9.5.

Comments: 2+3+3+1.5 In-stream channel recovering from recent dredging in ACE flood control channel.

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 table with categories: RIPARIAN WIDTH, FLOOD PLAIN QUALITY, EROSION. Includes checkboxes and a final score of 5.5.

Comments: 3+2.5+0

5) POOL / GLIDE AND RIFFLE / RUN QUALITY

Pool / Glide and Riffle / Run Quality assessment table with categories: MAXIMUM DEPTH, CHANNEL WIDTH, CURRENT VELOCITY. Includes checkboxes and a final score of 7.

Comments: 2+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]

Riffle / Run Quality assessment table with categories: RIFFLE DEPTH, RUN DEPTH, RIFFLE / RUN SUBSTRATE, RIFFLE / RUN EMBEDDEDNESS. Includes checkboxes and a final score of 3.5.

Comments: 1+1+1.5+0

6) GRADIENT (5.90 ft/mi) DRAINAGE AREA (23.20 mi^2) Assessment table with categories: GRADIENT, DRAINAGE AREA, % POOL, % GLIDE, % RUN, % RIFFLE. Includes checkboxes and a final score of 6.

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

CLARITY

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

CANOPY

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

CJ RECREATION

- AREA DEPTH
 > 100ft² > 3ft
 POOL: > 100ft² > 3ft

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

Near Lakeshore Blvd @ downstream end of the zone, a lot of sediment appears to drop out and embed > 1/2 the stream channel. The upper 1/2 of the zone has unstable substrates due to the force of stormwater flows coming from the concrete lined flume. Trash throughout the zone, with no high quality pools or in-stream substrates.

BJ AESTHETICS

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

DJ MAINTENANCE

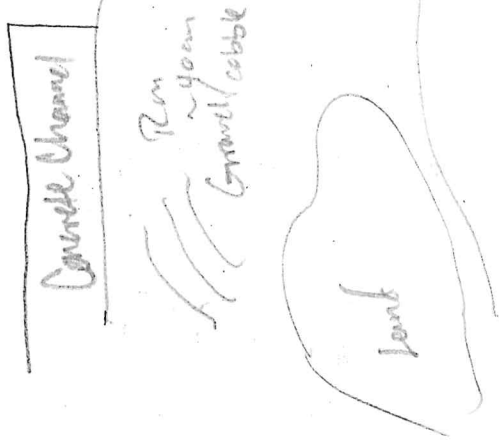
- PUBLIC / PRIVATE / BOTH / NA
 ACTIVE / HISTORIC / BOTH / NA
 YOUNG-SUCCESSION-OLD
 SPRAY / SNAG / REMOVED
 MODIFIED / DIPPED OUT / NA
 LEVEED / ONE SIDED
 RELOCATED / CUTOFFS
 MOVING-BEDLOAD-STABLE
 ARMOURING / SLUMPS
 ISLANDS / SCOURING
 IMPOUNDED / DESICCATED
 FLOOD CONTROL / DRAINAGE

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 PAUCITY

FJ MEASUREMENTS

- width
 depth
 max. depth
 bankfull width
 bankfull depth
 W/D ratio
 bankfull max. depth
 floodprone x² width
 entrench. ratio
 Legacy Tree:

Stream Drawing: Flow →

Small riparian buffer

Rem - you can see gravel/cobble

Riffle

Pool

Cobble/Gravel

Run

Root mats

Cobble

Sand

Cobble

Sand

Apartment complex

Lakeshore Blvd

Stream & Location: Euclid Creek 150 ft DS of Lakeshore Blvd

RM: 0.55 Date: 7/14/23

JUSTIN TELEP

Scorers Full Name & Affiliation: Northeast Ohio Regional Sewer District

River Code: 19-041-000 STORET #: F01447 Lat./ Long.: 41.5833 -81.5594

Office verified location

1] SUBSTRATE

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

Check ONE (Or 2 & average)

| | | | | | | | | |
|--|---|--|---|--|-------------------------------|-------------------------------------|---|--|
| BEST TYPES | | OTHER TYPES | | ORIGIN | | QUALITY | | Substrate 14 Maximum 20 |
| <input type="checkbox"/> BDR /SLABS [10] | <input checked="" type="checkbox"/> POOL RIFFLE | <input type="checkbox"/> HARDPAN [4] | <input checked="" type="checkbox"/> POOL RIFFLE | <input type="checkbox"/> LIMESTONE [1] | <input type="checkbox"/> SILT | <input type="checkbox"/> HEAVY [-2] | <input checked="" type="checkbox"/> MODERATE [-1] | |
| <input type="checkbox"/> BOULDER [9] | <input checked="" type="checkbox"/> | <input type="checkbox"/> DETRITUS [3] | <input checked="" type="checkbox"/> | <input type="checkbox"/> TILLS [1] | <input type="checkbox"/> | <input type="checkbox"/> NORMAL [0] | <input type="checkbox"/> FREE [1] | |
| <input type="checkbox"/> COBBLE [8] | <input checked="" type="checkbox"/> | <input type="checkbox"/> MUCK [2] | <input checked="" type="checkbox"/> | <input type="checkbox"/> WETLANDS [0] | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> EXTENSIVE [-2] | |
| <input checked="" type="checkbox"/> GRAVEL [7] | <input checked="" type="checkbox"/> | <input type="checkbox"/> SILT [2] | <input checked="" type="checkbox"/> | <input type="checkbox"/> HARDPAN [0] | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> MODERATE [-1] | |
| <input type="checkbox"/> SAND [6] | <input checked="" type="checkbox"/> | <input type="checkbox"/> ARTIFICIAL [0] | <input checked="" type="checkbox"/> | <input type="checkbox"/> SANDSTONE [0] | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> NORMAL [0] | |
| <input type="checkbox"/> BEDROCK [5] | <input type="checkbox"/> | (Score natural substrates; ignore sludge from point-sources) | | <input type="checkbox"/> RIP/RAP [0] | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> NONE [1] | |

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

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

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.

AMOUNT

Check ONE (Or 2 & average)

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

Comments: 7+7

Cover Maximum 20 14

3] CHANNEL MORPHOLOGY

Check ONE in each category (Or 2 & average)

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

Comments: 2+1+6+1.5

Channel Maximum 20 10.5

4] BANK EROSION AND RIPARIAN ZONE

Check ONE in each category for EACH BANK (Or 2 per bank & average)

| | | | | | | | |
|---|---|--|---|---|---|--|--|
| EROSION | | RIPARIAN WIDTH | | FLOOD PLAIN QUALITY | | CONSERVATION | |
| <input checked="" type="checkbox"/> NONE / LITTLE [3] | <input type="checkbox"/> MODERATE [2] | <input type="checkbox"/> WIDE > 50m [4] | <input type="checkbox"/> MODERATE 10-50m [3] | <input type="checkbox"/> FOREST, SWAMP [3] | <input type="checkbox"/> SHRUB OR OLD FIELD [2] | <input type="checkbox"/> CONSERVATION TILLAGE [1] | <input type="checkbox"/> URBAN OR INDUSTRIAL [0] |
| <input type="checkbox"/> MODERATE [2] | <input type="checkbox"/> HEAVY / SEVERE [1] | <input checked="" type="checkbox"/> NARROW 5-10m [2] | <input type="checkbox"/> VERY NARROW < 5m [1] | <input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1] | <input type="checkbox"/> FENCED PASTURE [1] | <input type="checkbox"/> MINING / CONSTRUCTION [0] | <input type="checkbox"/> MINING / CONSTRUCTION [0] |
| <input type="checkbox"/> HEAVY / SEVERE [1] | | <input type="checkbox"/> NONE [0] | | <input type="checkbox"/> OPEN PASTURE, ROWCROP [0] | | Indicate predominant land use(s) past 100m riparian. | |

Comments: 3+2+0.5

Riparian Maximum 10 5.5

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

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

Indicate for reach - pools and riffles.

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

Pool / Current Maximum 12 9

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]

| | | | |
|--|---|---|---|
| RIFFLE DEPTH | RUN DEPTH | RIFFLE / RUN SUBSTRATE | RIFFLE / RUN EMBEDDEDNESS |
| <input 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 type="checkbox"/> MAXIMUM < 50cm [1] | <input type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1] | <input 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 type="checkbox"/> EXTENSIVE [-1] |

Riffle / Run Maximum 8 0

6] GRADIENT

(5.96 ft/mi)

DRAINAGE AREA
(23.40 mi²)

| | | |
|---|---|--|
| <input type="checkbox"/> VERY LOW - LOW [2-4] | <input checked="" type="checkbox"/> MODERATE [6-10] | <input type="checkbox"/> HIGH - VERY HIGH [10-6] |
|---|---|--|

%POOL: 40 %GLIDE: 40
%RUN: 20 %RIFFLE: 0

Gradient Maximum 10 6

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

CLARITY

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

CANOPY

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

CJ RECREATION

AREA DEPTH
POOL: >100ft² >3ft

Stream Drawing: *Flow* ←

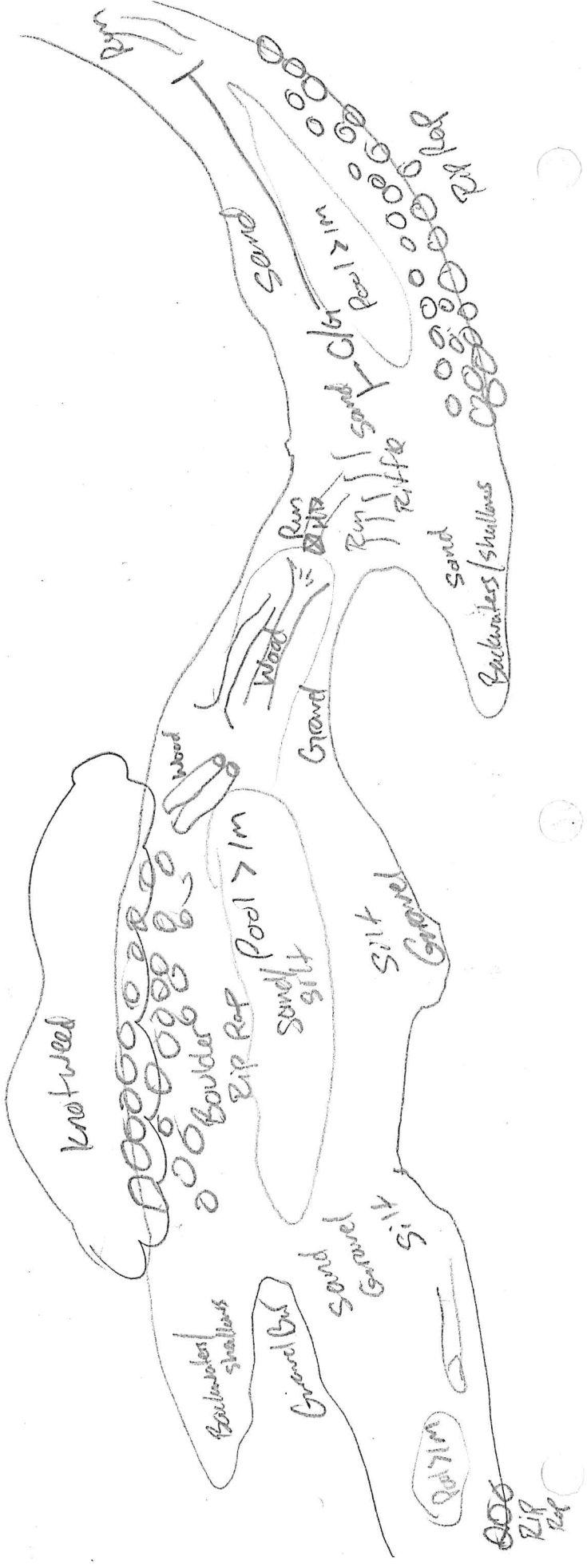
Comment RE: Reach consistency/ Is reach typical of stream?; Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.
 Fish collected were predominately yearling year. Very few adult fish were collected during the first pass.
 Flows switched multiple times during survey due to backflow from Lake Erie. No true riffle exists.
 Periodically when Lake Erie flow subsides, a fine-substrate riffle appears, but depths are < the functional 5 cm limit. CSO control seems to be working, as sewage sudge deposits on river right were not present, as was the case in the past. Site within transitional zone.

| EJ ISSUES | FJ MEASUREMENTS |
|---|--|
| 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 ₂ O / TILE / H ₂ O TABLE ACID / MINE / QUARRY / FLOW NATURAL / WETLAND / STAGNANT PARK / GOLF / LAWN / HOME ATMOSPHERE / DATA PAUCITY | x width x depth max. depth x bankfull width bankfull x depth W/D ratio bankfull max. depth floodprone x ² width entrench. ratio Legacy Tree: |

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 / CUTOFFS
- MOVING-BEDLOAD-STABLE
- ARMORED / 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 & Location: Euclid Creek US of Wildwood Marina RM: 0.40 Date: 6/23/23

Mark Matteson Scorers Full Name & Affiliation: Northeast Ohio Regional Sewer District

River Code: 19-041-000 STORET #: F01A46 Lat./ Long.: 41.5857-81.5622 Office verified location

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

Substrate assessment table with categories: BEST TYPES, OTHER TYPES, ORIGIN, QUALITY. Includes checkboxes for BLDR/SLABS, COBBLE, SAND, BEDROCK, etc. and a circled score of 15.

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 table with categories: UNDERCUT BANKS, OVERHANGING VEGETATION, SHALLOWS, ROOTMATS, POOLS, ROOTWADS, BOULDERS, OXBOWS, AQUATIC MACROPHYTES, LOGS OR WOODY DEBRIS. Includes a circled score of 17.

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

Channel Morphology assessment table with categories: SINUOSITY, DEVELOPMENT, CHANNELIZATION, STABILITY. Includes checkboxes for HIGH, MODERATE, LOW, EXCELLENT, GOOD, FAIR, POOR, etc. and a circled score of 11.

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 table with categories: EROSION, RIPARIAN WIDTH, FLOOD PLAIN QUALITY. Includes checkboxes for NONE/LITTLE, MODERATE, HEAVY/SEVERE, etc. and a circled score of 65.

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

Pool/Glide and Riffle/Run Quality assessment table with categories: MAXIMUM DEPTH, CHANNEL WIDTH, CURRENT VELOCITY. Includes checkboxes for >1m, 0.7-1m, etc. and a circled score of 8.

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

Riffle/Run Quality assessment table with categories: RIFFLE DEPTH, RUN DEPTH, RIFFLE / RUN SUBSTRATE, RIFFLE / RUN EMBEDDEDNESS. Includes checkboxes for BEST AREAS >10cm, etc. and a circled score of 0.

6] GRADIENT (10.52 ft/mi) DRAINAGE AREA (23.20 mi^2) %POOL: %GLIDE: %RUN: %RIFFLE: Gradient Maximum 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

- < 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 >100ft²
- DEPTH >3ft
- POOL:

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 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:

Higher silt/muck loading in wetland compared to previous sampling events

Stream Drawing:

