Chipmunk Solar

Exhibit Q

Ecological Assessment Report

Filing 7 of 10

Case No. 21-0960 EL BGN

APPENDIX D

QHEI/HHEI Stream Evaluation Data Forms

EWH Perennial 1-001

OhioEPA Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 76.5

Stream & Location: Deer Creek / Pickaway County, OH RM: 14.8 Date: 08/30/21

Scorers Full Name & Affiliation: Cory Kwolek | ESI

River Code: 02-300-000 STORET #: Lat./Long.: (NAD 83 - decimal) 39.606718 3.1236 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
☐ ☐ BLDR /SLABS [10]			☐ ☐ HARDPAN [4]		
☐ ☐ BOULDER [9]			☐ ☐ DETRITUS [3]		
☒ ☐ COBBLE [8]	50%	30%	☐ ☐ MUCK [2]		
☐ ☒ GRAVEL [7]	20%	100%	☐ ☐ SILT [2]	5%	5%
☐ ☐ SAND [6]	15%	50%	☐ ☐ ARTIFICIAL [0]		
☐ ☐ BEDROCK [5]	10%		(Score natural substrates; ignore sludge from point-sources)		

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

ORIGIN: ☒ LIMESTONE [1] ☐ TILLS [1] ☐ WETLANDS [0] ☐ HARDPAN [0] ☐ SANDSTONE [0] ☐ RIP/RAP [0] ☒ LACUSTURINE [0] ☐ SHALE [-1] ☐ COAL FINES [-2]

EMBEDDEDNESS — SILT: QUALITY: ☐ HEAVY [-2] ☒ MODERATE [-1] ☐ NORMAL [0] ☐ FREE [1]; EMBEDDEDNESS: ☐ EXTENSIVE [-2] ☒ MODERATE [-1] ☐ NORMAL [0] ☐ NONE [1]

-1 -1

Substrate Maximum 20: 16

15 1

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.

1 UNDERCUT BANKS [1]	0 POOLS > 70cm [2]	3 OXBOWS, BACKWATERS [1]	
1 OVERHANGING VEGETATION [1]	2 ROOTWADS [1]	0 AQUATIC MACROPHYTES [1]	
1 SHALLOWS (IN SLOW WATER) [1]	0 BOULDERS [1]	1 LOGS OR WOODY DEBRIS [1]	
0 ROOTMATS [1]			

9

AMOUNT (Check ONE (Or 2 & average)): ☐ EXTENSIVE >75% [11] ☒ MODERATE 25-75% [7] ☐ SPARSE 5-<25% [3] ☐ NEARLY ABSENT <5% [1]

7

Comments

Cover Maximum 20: 16

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

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY
☐ HIGH [4]	☐ EXCELLENT [7]	☒ NONE [6]	☐ HIGH [3]
☒ MODERATE [3]	☑ GOOD [5]	☒ RECOVERED [4]	☑ MODERATE [2]
☐ LOW [2]	☐ FAIR [3]	☐ RECOVERING [3]	☐ LOW [1]
☐ NONE [1]	☐ POOR [1]	☐ RECENT OR NO RECOVERY [1]	

3 5 5 2

Comments

Channel Maximum 20: 15

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

River right looking downstream

EROSION (L R)	RIPARIAN WIDTH (L R)	FLOOD PLAIN QUALITY (L R)	
☐ ☐ NONE / LITTLE [3]	☐ ☐ WIDE > 50m [4]	☒ ☒ FOREST, SWAMP [3]	☐ ☐ CONSERVATION TILLAGE [1]
☒ ☒ MODERATE [2]	☒ ☒ MODERATE 10-50m [3]	☐ ☐ SHRUB OR OLD FIELD [2]	☐ ☐ URBAN OR INDUSTRIAL [0]
☐ ☐ HEAVY / SEVERE [1]	☐ ☐ NARROW 5-10m [2]	☐ ☐ RESIDENTIAL, PARK, NEW FIELD [1]	☐ ☐ MINING / CONSTRUCTION [0]
2	☐ ☐ VERY NARROW < 5m [1]	☐ ☐ FENCED PASTURE [1]	
	☐ ☐ NONE [0]	☐ ☐ OPEN PASTURE, ROWCROP [0]	
	3	3	

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

Comments

Riparian Maximum 10: 8

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	
☐ > 1m [6]	☐ POOL WIDTH > RIFFLE WIDTH [2]	☐ TORRENTIAL [-1]	☐ SLOW [1]
☒ 0.7-<1m [4]	☒ POOL WIDTH = RIFFLE WIDTH [1]	☐ VERY FAST [1]	☐ INTERSTITIAL [-1]
☐ 0.4-<0.7m [2]	☐ POOL WIDTH < RIFFLE WIDTH [0]	☐ FAST [1]	☐ INTERMITTENT [-2]
☐ 0.2-<0.4m [1]	1	☒ MODERATE [1]	☒ EDDIES [1]
☐ < 0.2m [0] 4		Indicate for reach - pools and riffles. 2	

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

Comments

Pool / Current Maximum 12: 7

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
☐ BEST AREAS > 10cm [2]	☐ MAXIMUM > 50cm [2]	☒ STABLE (e.g., Cobble, Boulder) [2]	☐ NONE [2]
☒ BEST AREAS 5-10cm [1]	☒ MAXIMUM < 50cm [1]	☐ MOD. STABLE (e.g., Large Gravel) [1] 4.5	☒ LOW [1] 1
☐ BEST AREAS < 5cm [metric=0] 1	1	☐ UNSTABLE (e.g., Fine Gravel, Sand) [0]	☐ MODERATE [0]
			☐ EXTENSIVE [-1]

Comments

Riffle / Run Maximum 8: 4.5

6] GRADIENT (7.3 ft/mi) DRAINAGE AREA (277 mi²)

☐ VERY LOW - LOW [2-4] ☒ MODERATE [6-10] ☐ HIGH - VERY HIGH [10-6] 10

%POOL: 10% %GLIDE: 50% %RUN: 20% %RIFFLE: 20%

Gradient Maximum 10: 10

EPA 4520 06/16/06

A] 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

_____ meters

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

1st pass _____ cm

2nd _____ cm

C] RECREATION

POOL: AREA ☐ >100ft² DEPTH ☐ >3ft

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

Reach consistant w/ stream characteristics

B] AESTHETICS

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

D] 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

E] ISSUES

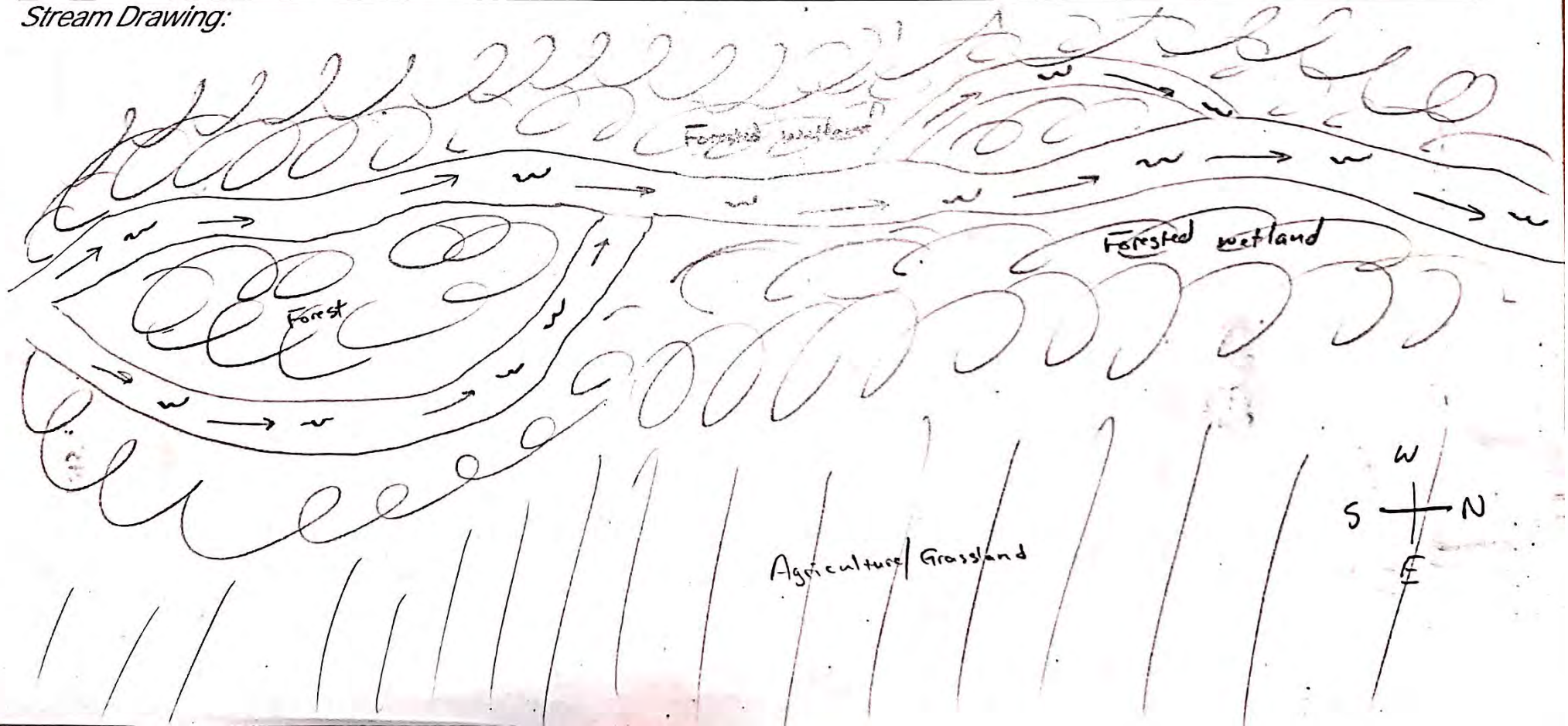
WWTP / CSO / NPDES / INDUSTRY
HARDENED / URBAN / DIRT&GRIME
CONTAMINATED / LANDFILL
BMPs-CONSTRUCTION-SEDIMENT
LOGGING / IRRIGATION / COOLING
BANK / EROSION / SURFACE
FALSE BANK / MANURE / LAGOON
WASH H_20 / TILE / H_20 TABLE
ACID / MINE / QUARRY / FLOW
NATURAL / WETLAND / STAGNANT
PARK / GOLF / LAWN / HOME
ATMOSPHERE / DATA PAUCITY

F] MEASUREMENTS

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

Legacy Tree:

Stream Drawing:



WWH Perennial 1-002

Ohio EPA Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 66.5

Stream & Location: Dry Run (1-002); Pickaway County RM: 001.0 Date: 8/30/21

Scorers Full Name & Affiliation: Cory Kwolek / ESI

River Code: 002-304-000 STORET #: _____ Lat./Long.: 39.6183 183.1283 (NAD 83 - decimal °) Office verified location ☐

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

BEST TYPES	POOL	RIFFLE	OTHER TYPES	POOL	RIFFLE
☐☐ BLDR/SLABS [10]	____	____	☐☐ HARDPAN [4]	____	____
☐☐ BOULDER [9]	____	____	☐☐ DETRITUS [3]	____	5%
☒☐ COBBLE [8]	100%	25	☐☐ MUCK [2]	____	____
☐☒ GRAVEL [7]	70%	50%	☐☐ SILT [2]	5%	5%
☐☐ SAND [6] 15	10%	10%	☐☐ ARTIFICIAL [0]	____	____
☐☐ BEDROCK [5]	5%	5%	(Score natural substrates; ignore sludge from point-sources)		

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

ORIGIN	QUALITY
☐ LIMESTONE [1]	☐ HEAVY [-2]
☐ TILLS [1]	☐ MODERATE [-1]
☐ WETLANDS [0]	SILT ☒ NORMAL [0]
☐ HARDPAN [0]	☐ FREE [1]
☒ SANDSTONE [0]	☐ EXTENSIVE [-2]
☐ RIP/RAP [0]	EMBEDDEDNESS ☐ MODERATE [-1]
☐ LACUSTURINE [0]	☒ NORMAL [0]
☐ SHALE [-1]	☐ NONE [1]
☐ COAL FINES [-2]	

Check ONE (Or 2 & average)

Comments 0

Substrate 17 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.

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

AMOUNT (Check ONE (Or 2 & average))

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

Comments 9 7

Cover Maximum 20: 16

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

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY
☐ HIGH [4]	☐ EXCELLENT [7]	☒ NONE [6]	☐ HIGH [3]
☒ MODERATE [3]	☒ GOOD [5]	☑ RECOVERED [4] 5	☑ MODERATE [2] 2
☐ LOW [2]	☐ FAIR [3] 5	☐ RECOVERING [3]	☐ LOW [1]
☐ NONE [1] 3	☐ POOR [1]	☐ RECENT OR NO RECOVERY [1]	

Comments

Channel Maximum 20: 15

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

River right looking downstream

EROSION (L / R)	RIPARIAN WIDTH (L / R)	FLOOD PLAIN QUALITY (L / R)
☐☐ NONE / LITTLE [3]	☐☐ WIDE > 50m [4]	☐☐ FOREST, SWAMP [3]
☐☐ MODERATE [2]	☒☒ MODERATE 10-50m [3]	☐☐ SHRUB OR OLD FIELD [2]
☒☒ HEAVY / SEVERE [1]	☐☐ NARROW 5-10m [2]	☐☐ RESIDENTIAL, PARK, NEW FIELD [1]
	☐☐ VERY NARROW < 5m [1]	☐☐ FENCED PASTURE [1]
	☐☐ NONE [0]	☐☐ OPEN PASTURE, ROWCROP [0]

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

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

Comments 1 3 3

Riparian Maximum 10: 7

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

MAXIMUM DEPTH Check ONE (ONLY!)	CHANNEL WIDTH Check ONE (Or 2 & average)	CURRENT VELOCITY Check ALL that apply	
☐ > 1m [6]	☒ POOL WIDTH > RIFFLE WIDTH [2]	☐ TORRENTIAL [-1]	☒ SLOW [1]
☐ 0.7-<1m [4]	☐ POOL WIDTH = RIFFLE WIDTH [1]	☐ VERY FAST [1]	☐ INTERSTITIAL [-1]
☒ 0.4-<0.7m [2] 2	☐ POOL WIDTH < RIFFLE WIDTH [0]	☐ FAST [1]	☐ INTERMITTENT [-2]
☐ 0.2-<0.4m [1]	2	☒ MODERATE [1]	☐ EDDIES [1]
☐ < 0.2m [0]		Indicate for reach - pools and riffles.	

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

Comments 2 -1

Pool / Current Maximum 12: 5

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
☐ BEST AREAS > 10cm [2]	☐ MAXIMUM > 50cm [2]	☒ STABLE (e.g., Cobble, Boulder) [2]	☐ NONE [2]
☒ BEST AREAS 5-10cm [1]	☒ MAXIMUM < 50cm [1] 1	☒ MOD. STABLE (e.g., Large Gravel) [1]	☒ LOW [1]
☐ BEST AREAS < 5cm [metric=0] 1		☐ UNSTABLE (e.g., Fine Gravel, Sand) [0] 1.5	☐ MODERATE [0]
			☐ EXTENSIVE [-1] 1

Comments

Riffle / Run Maximum 8: 4.5

6] GRADIENT (1 ft/mi) DRAINAGE AREA (20.4 mi²)

☒ VERY LOW - LOW [2-4] ☐ MODERATE [6-10] ☐ HIGH - VERY HIGH [10-6] 2

%POOL: 20% %GLIDE: 15% %RUN: 40% %RIFFLE: 25%

Gradient Maximum 10: 2

A] 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

_____ meters

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	☐

1st pass _____ cm

2nd _____ cm

CANOPY

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

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

Reach consistent w/ stream characteristics

B] AESTHETICS

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

C] RECREATION

POOL: AREA ☐ >100ft² DEPTH ☐ >3ft

D] 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

E] ISSUES

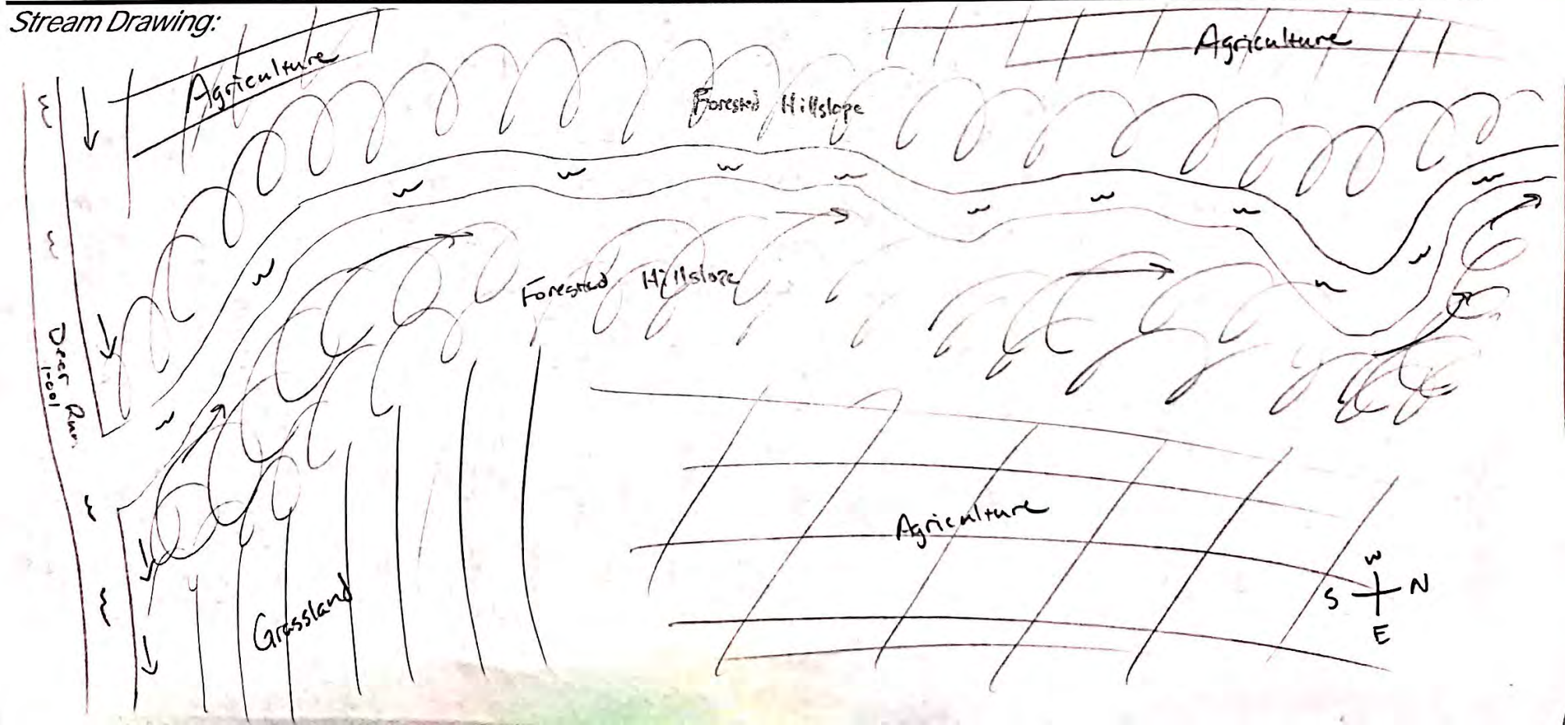
WWTP / CSO / NPDES / INDUSTRY
HARDENED / URBAN / DIRT&GRIME
CONTAMINATED / LANDFILL
BMPs-CONSTRUCTION-SEDIMENT
LOGGING / IRRIGATION / COOLING
BANK / EROSION / SURFACE
FALSE BANK / MANURE / LAGOON
WASH H_20 / TILE / H_20 TABLE
ACID / MINE / QUARRY / FLOW
NATURAL / WETLAND / STAGNANT
PARK / GOLF / LAWN / HOME
ATMOSPHERE / DATA PAUCITY

F] MEASUREMENTS

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

Legacy Tree:

Stream Drawing:



Intermittent Stream 1-003

Headwater Habitat Evaluation Index Field Form

Ohio Environmental Protection Agency

HHEI Score (sum of metrics 1+2+3) 54

SITE NAME/LOCATION 1784 Chipmunk Solar

SITE NUMBER 1-003 RIVER BASIN Scioto River RIVER CODE — DRAINAGE AREA (mi²) 1.0

LENGTH OF STREAM REACH (ft) 200 ft LAT 39.625523° LONG -83.129920 RIVER MILE —

DATE 8/30/2021 SCORER E. Wilson COMMENTS Drainage area captures adjacent stream.

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for instructions

STREAM CHANNEL MODIFICATIONS: ☒ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type present). Check *ONLY* two predominant substrate *TYPE* boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B

TYPE		PERCENT	TYPE		PERCENT
☐	BLDR SLABS [16 pts]		☐	SILT [3 pt]	
☐	BOULDER (>256 mm) [16 pts]		☐	LEAF PACK/WOODY DEBRIS [3 pts]	
☐	BEDROCK [16 pts]		☐	FINE DETRITUS [3 pts]	10
☐	COBBLE (65-256 mm) [12 pts]	5	☐	CLAY or HARDPAN [0 pt]	
☒	GRAVEL (2-64 mm) [9 pts]	65	☐	MUCK [0 pts]	
☒	SAND (<2 mm) [6 pts]	20	☐	ARTIFICIAL [3 pts]	

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 70 (A) 15

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:

(B) 4 TOTAL NUMBER OF SUBSTRATE TYPES:

HHEI Metric Points — Substrate Max = 40: 19 — A + B

2. Maximum Pool Depth (*Measure the maximum pool depth within the 61 meter (200 feet)* evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

- ☐ > 30 centimeters [20 pts]
- ☐ > 22.5 - 30 cm [30 pts]
- ☐ > 10 - 22.5 cm [25 pts]
- ☒ 5 cm - 10 cm [15 pts]
- ☐ < 5 cm [5pts]
- ☐ NO WATER OR MOIST CHANNEL [0pts]

COMMENTS N/A MAXIMUM POOL DEPTH (centimeters): 10

Pool Depth Max = 30: 15

3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check *ONLY* one box):

- ☐ > 4.0 meters (> 13') [30 pts]
- ☐ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]
- ☒ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]
- ☐ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
- ☐ ≤ 1.0 m (≤ 3' 3") [5 pts]

COMMENTS N/A AVERAGE BANKFULL WIDTH (meters): 1.8

Bankfull Width Max=30: 20

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream *

RIPARIAN WIDTH (Per Bank) L	R	FLOODPLAIN QUALITY (Most Predominant per Bank) L	R	L	R
☒	☒ Wide >10m	☒	☒ Mature Forest, Wetland	☐	☐ Conservation Tillage
☐	☐ Moderate 5-10m	☐	☐ Immature Forest, Shrub or Old Field	☐	☐ Urban or Industrial
☐	☐ Narrow <5m	☐	☐ Residential, Park, New Field	☐	☐ Open Pasture, Row Crop
☐	☐ None	☐	☐ Fenced Pasture	☐	☐ Mining or Construction

COMMENTS N/A

FLOW REGIME (*At Time of Evaluation*) (Check *ONLY* one box):

- ☐ Stream Flowing
- ☐ Subsurface flow with isolated pools (interstitial)
- ☒ Moist Channel, isolated pools, no flow (intermittent)
- ☐ Dry channel, no water (ephemeral)

COMMENTS N/A

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

☐ None	☐ 1.0	☐ 2.0	☐ 3.0
☐ 0.5	☒ 1.5	☐ 2.5	☐ >3

STREAM GRADIENT ESTIMATE

☒ Flat (0.5 ft/100 ft) ☐ Flat to Moderate ☐ Moderate (2 ft/100 ft) ☐ Moderate to Severe ☐ Severe (10 ft/100 ft)

Intermittent Stream 1-003

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? ☐Yes ☐No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

☒ WWH Name: Dry Run Distance from Evaluated Stream 0.0

☐ CWH Name: _____ Distance from Evaluated Stream _____

☐ EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Five Points NRCS Soil Map Page: - NRCS Soil Map Stream Order: -

County: Pickaway Township/City: Deer Creek / Williamsport

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: - Quantity: -

Photo-documentation Notes: Upstream, Downstream + Substrate

Elevated Turbidity? (Y/N): N Canopy (% open): -

Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): -

Field Measures: Temp (°C) - Dissolved Oxygen (mg/l) - pH (S.U.) - Conductivity (umhos/cm) -

Is the sampling reach representative of the stream (Y/N) N If not, explain: N/A

Additional comments/description of pollution impacts: N/A

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): N/A

Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): N/A

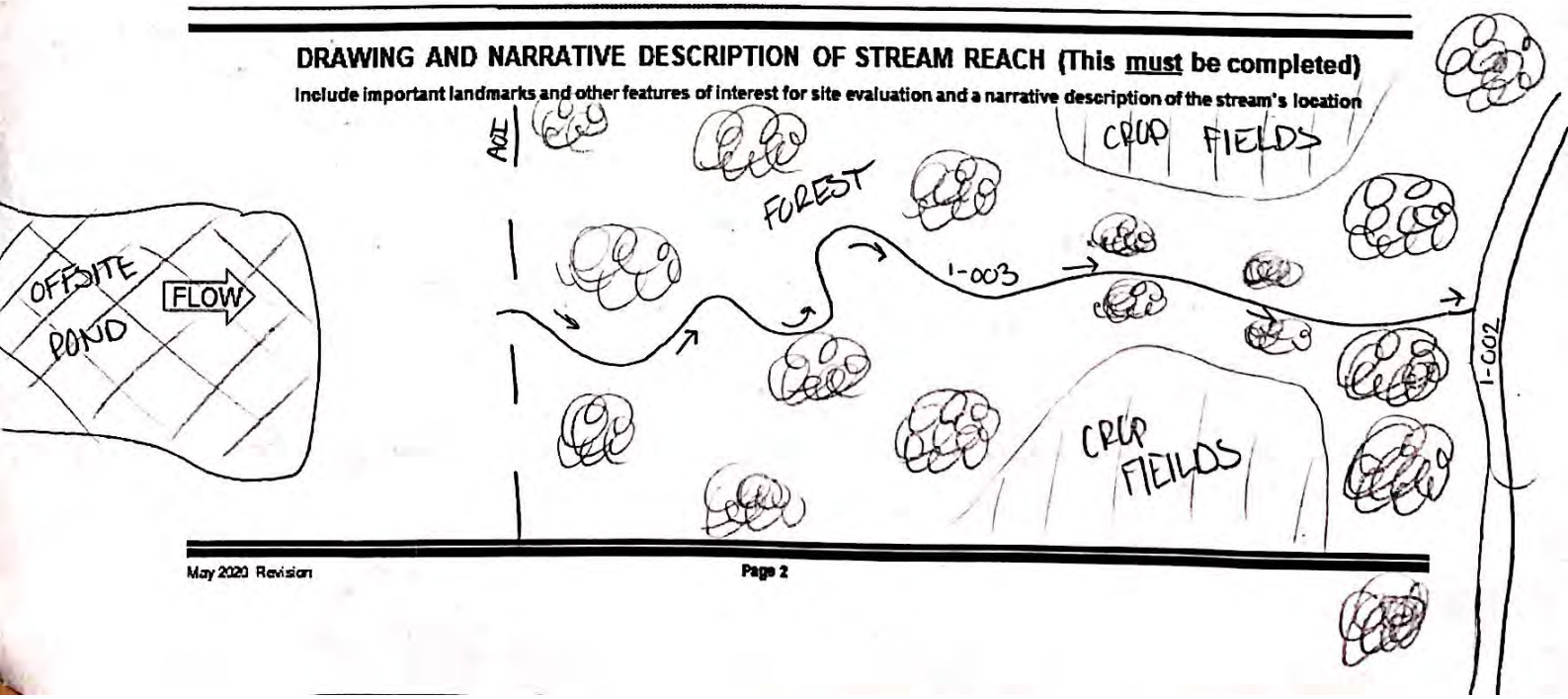
Salamanders Observed? (Y/N) N Species observed (if known): N/A

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): N/A

Comments Regarding Biology: N/A

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Ephemeral Stream 1-004

Ohio Headwater Habitat Evaluation Index Field Form

Ohio Environmental Protection Agency

HHEI Score (sum of metrics 1+2+3) 11

SITE NAME/LOCATION 1784 Chipmunk Solar

SITE NUMBER 1-004 RIVER BASIN Scioto River RIVER CODE — DRAINAGE AREA (mi²) 0.0001

LENGTH OF STREAM REACH (ft) 200 ft LAT 39.625856 LONG -83.130502 RIVER MILE —

DATE 8/30/2021 SCORER E. Wilson COMMENTS N/A

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: ☒ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type present). Check *ONLY* two predominant substrate *TYPE* boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B

TYPE		PERCENT	TYPE		PERCENT
☐	BLDR SLABS [16 pts]		☐	SILT [3 pt]	
☐	BOULDER (>256 mm) [16 pts]		☐	LEAF PACK/WOODY DEBRIS [3 pts]	10
☐	BEDROCK [16 pts]		☒	FINE DETRITUS [3 pts]	20
☐	COBBLE (65-256 mm) [12 pts]		☐	CLAY or HARDPAN [0 pt]	70
☐	GRAVEL (2-64 mm) [9 pts]		☐	MUCK [0 pts]	
☐	SAND (<2 mm) [6 pts]		☐	ARTIFICIAL [3 pts]	

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 0 (A) 3

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES: (B) 3

HHEI Metric Points — Substrate Max = 40: 6 (A + B)

2. Maximum Pool Depth (*Measure the maximum pool depth within the 61 meter (200 feet)* evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

- ☐ > 30 centimeters [20 pts]
- ☐ > 22.5 - 30 cm [30 pts]
- ☐ > 10 - 22.5 cm [25 pts]
- ☐ 5 cm - 10 cm [15 pts]
- ☐ < 5 cm [5pts]
- ☒ NO WATER OR MOIST CHANNEL [0pts]

COMMENTS N/A MAXIMUM POOL DEPTH (centimeters): 0

Pool Depth Max = 30: 0

3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check *ONLY* one box):

- ☐ > 4.0 meters (> 13') [30 pts]
- ☐ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]
- ☐ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]
- ☐ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
- ☒ ≤ 1.0 m (≤ 3' 3") [5 pts]

COMMENTS N/A AVERAGE BANKFULL WIDTH (meters): 0.60

Bankfull Width Max=30: 5

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream *

RIPARIAN WIDTH (Per Bank) L	R		FLOODPLAIN QUALITY (Most Predominant per Bank) L	R		L	R	
☒	☒	Wide >10m	☒	☒	Mature Forest, Wetland	☐	☐	Conservation Tillage
☐	☐	Moderate 5-10m	☐	☐	Immature Forest, Shrub or Old Field	☐	☐	Urban or Industrial
☐	☐	Narrow <5m	☐	☐	Residential, Park, New Field	☐	☐	Open Pasture, Row Crop
☐	☐	None	☐	☐	Fenced Pasture	☐	☐	Mining or Construction

COMMENTS N/A

FLOW REGIME (*At Time of Evaluation*) (Check *ONLY* one box):

- ☐ Stream Flowing
- ☐ Subsurface flow with isolated pools (interstitial)
- ☐ Moist Channel, isolated pools, no flow (intermittent)
- ☒ Dry channel, no water (ephemeral)

COMMENTS N/A

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

- ☐ None
- ☐ 0.5
- ☒ 1.0
- ☐ 1.5
- ☐ 2.0
- ☐ 2.5
- ☐ 3.0
- ☐ >3

STREAM GRADIENT ESTIMATE

☒ Flat (0.5 ft/100 ft) ☐ Flat to Moderate ☐ Moderate (2 ft/100 ft) ☐ Moderate to Severe ☐ Severe (10 ft/100 ft)

Ephemeral Stream 1-004

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? ☐Yes ☒No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

☐ WWH Name: _____ Distance from Evaluated Stream —

☐ CWH Name: — Distance from Evaluated Stream —

☐ EWH Name: — Distance from Evaluated Stream —

UNT

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Five Points NRCS Soil Map Page: — NRCS Soil Map Stream Order: —

County: Pickaway Township/City: Deer Creek / Williamsport

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: — Quantity: —

Photo-documentation Notes: Upstream, Downstream + Substrate

Elevated Turbidity? (Y/N): N Canopy (% open): —

Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): —

Field Measures: Temp (°C) — Dissolved Oxygen (mg/l) — pH (S.U.) — Conductivity (umhos/cm) —

Is the sampling reach representative of the stream (Y/N) N If not, explain: N/A

Additional comments/description of pollution impacts: N/A

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): N/A

Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): N/A

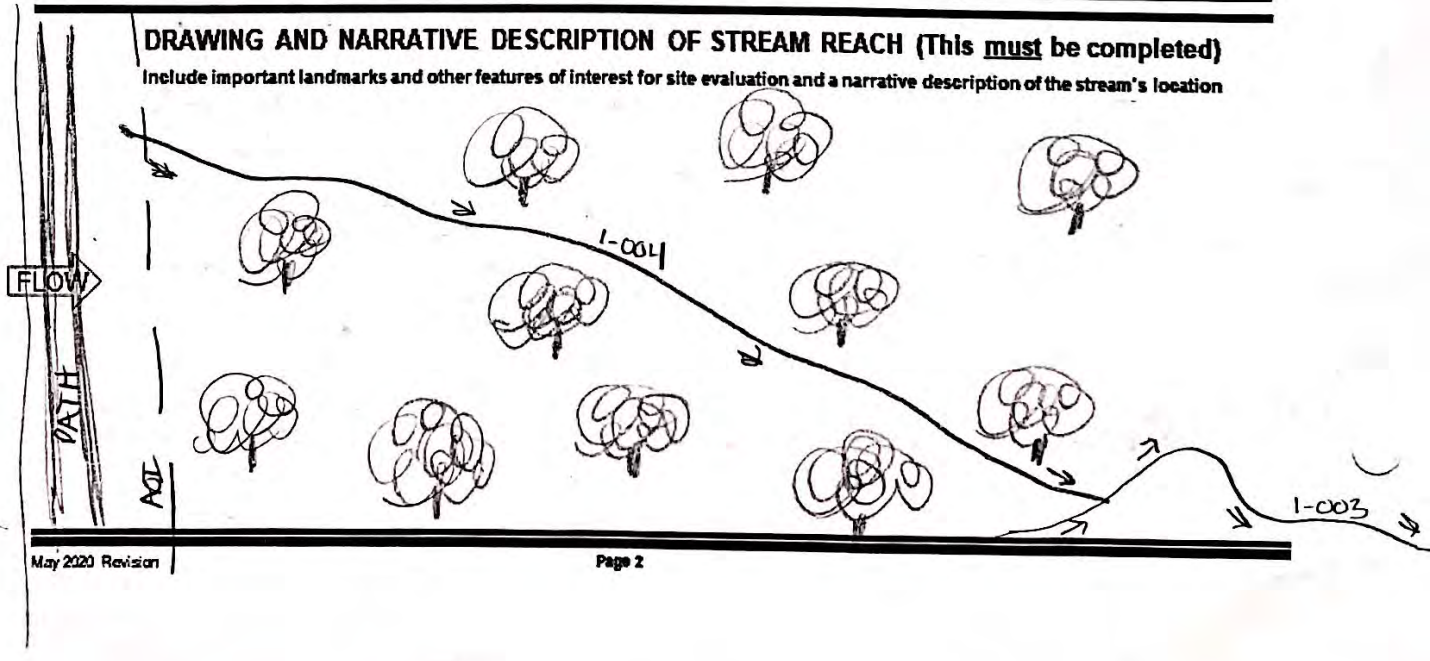
Salamanders Observed? (Y/N) N Species observed (if known): N/A

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): N/A

Comments Regarding Biology: N/A

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Ephemeral Stream 1-005

Ohio Headwater Habitat Evaluation Index Field Form

Ohio Environmental Protection Agency

HHEI Score (sum of metrics 1+2+3) 12

SITE NAME/LOCATION 1784 Chipmunk Solar

SITE NUMBER 1-005 RIVER BASIN Scioto River RIVER CODE — DRAINAGE AREA (mi²) 0.035

LENGTH OF STREAM REACH (ft) 200 ft LAT 39.022920 LONG -83.130525 RIVER MILE —

DATE 8/30/21 SCORER E. Wilson COMMENTS stream disappears before it connects to Dry Run. (view mapping)

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: ☒ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type present). Check *ONLY* two predominant substrate *TYPE* boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B

TYPE		PERCENT	TYPE		PERCENT
☐	BLDR SLABS [16 pts]		☐	SILT [3 pt]	
☐	BOULDER (>256 mm) [16 pts]		☒	LEAF PACK/WOODY DEBRIS [3 pts]	25
☐	BEDROCK [16 pts]		☐	FINE DETRITUS [3 pts]	
☐	COBBLE (65-256 mm) [12 pts]		☒	CLAY or HARDPAN [0 pt]	50
☐	GRAVEL (2-64 mm) [9 pts]	15	☐	MUCK [0 pts]	
☐	SAND (<2 mm) [6 pts]	10	☐	ARTIFICIAL [3 pts]	

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 0 (A)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3 TOTAL NUMBER OF SUBSTRATE TYPES: 4 (B)

HHEI Metric Points — Substrate Max = 40: 7 (A + B)

2. Maximum Pool Depth (*Measure the maximum pool depth within the 61 meter (200 feet)* evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

- ☐ > 30 centimeters [20 pts]
- ☐ > 22.5 - 30 cm [30 pts]
- ☐ > 10 - 22.5 cm [25 pts]
- ☐ 5 cm - 10 cm [15 pts]
- ☐ < 5 cm [5pts]
- ☒ NO WATER OR MOIST CHANNEL [0pts]

COMMENTS N/A MAXIMUM POOL DEPTH (centimeters): 0

Pool Depth Max = 30: 0

3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check *ONLY* one box):

- ☐ > 4.0 meters (> 13') [30 pts]
- ☐ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]
- ☐ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]
- ☐ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
- ☒ ≤ 1.0 m (≤ 3' 3") [5 pts]

COMMENTS N/A AVERAGE BANKFULL WIDTH (meters): .45

Bankfull Width Max=30: 5

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★

RIPARIAN WIDTH (Per Bank) L	R		FLOODPLAIN QUALITY (Most Predominant per Bank) L	R		L	R	
☐	☐	Wide >10m	☐	☐	Mature Forest, Wetland	☐	☐	Conservation Tillage
☒	☒	Moderate 5-10m	☐	☐	Immature Forest, Shrub or Old Field	☐	☐	Urban or Industrial
☐	☐	Narrow <5m	☐	☐	Residential, Park, New Field	☒	☒	Open Pasture, Row Crop
☐	☐	None	☐	☐	Fenced Pasture	☐	☐	Mining or Construction

COMMENTS N/A

FLOW REGIME (*At Time of Evaluation*) (Check *ONLY* one box):

- ☐ Stream Flowing
- ☐ Subsurface flow with isolated pools (interstitial)
- ☐ Moist Channel, isolated pools, no flow (intermittent)
- ☒ Dry channel, no water (ephemeral)

COMMENTS N/A

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

☐ None	☐ 1.0	☐ 2.0	☐ 3.0
☒ 0.5	☐ 1.5	☐ 2.5	☐ >3

STREAM GRADIENT ESTIMATE

☒ Flat (0.5 ft/100 ft) ☐ Flat to Moderate ☐ Moderate (2 ft/100 ft) ☐ Moderate to Severe ☐ Severe (10 ft/100 ft)

Ephemeral Stream 1-005

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? ☐Yes ☒No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

☐ WWH Name: — Distance from Evaluated Stream —

☐ CWH Name: — Distance from Evaluated Stream —

☐ EWH Name: — Distance from Evaluated Stream —

UNT

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Clarksburg NRCS Soil Map Page: — NRCS Soil Map Stream Order: —

County: Pickaway Township/City: Deer Creek / Williamsport

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: — Quantity: —

Photo-documentation Notes: Upstream, Downstream + Substrate

Elevated Turbidity? (Y/N): N Canopy (% open): —

Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): —

Field Measures: Temp (°C) — Dissolved Oxygen (mg/l) — pH (S.U.) — Conductivity (umhos/cm) —

Is the sampling reach representative of the stream (Y/N) N If not, explain: N/A

Additional comments/description of pollution impacts: N/A

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): N/A

Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): N/A

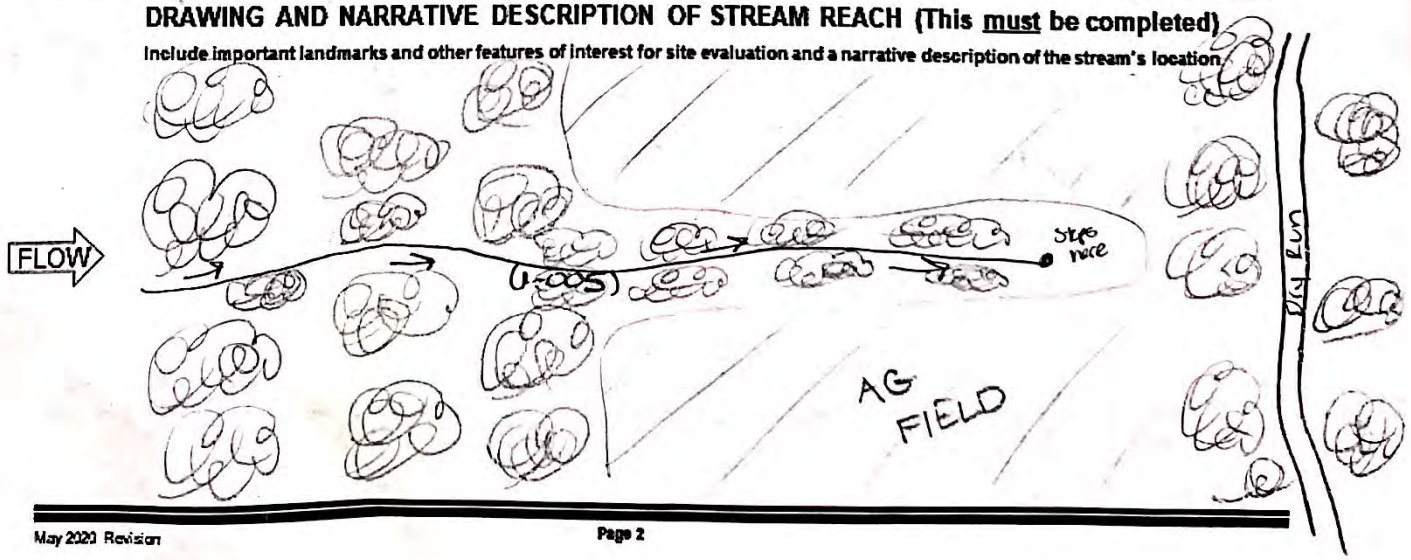
Salamanders Observed? (Y/N) N Species observed (if known): N/A

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): N/A

Comments Regarding Biology: N/A

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location.



Intermittent Stream 1-0006

Ohio Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3) 38

SITE NAME/LOCATION 1784 Chipmunk Solar

SITE NUMBER 1-0006 RIVER BASIN Scioto River RIVER CODE — DRAINAGE AREA (mi²) 0.14

LENGTH OF STREAM REACH (ft) 200 ft LAT 39.015587 LONG -83.125075 RIVER MILE —

DATE 8/30/21 SCORER E. Wilson COMMENTS N/A

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: ☒ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type present). Check *ONLY* two predominant substrate *TYPE* boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B

TYPE		PERCENT	TYPE		PERCENT
☐	BLDR SLABS [16 pts]		☐	SILT [3 pt]	
☐	BOULDER (>256 mm) [16 pts]		☐	LEAF PACK/WOODY DEBRIS [3 pts]	15
☐	BEDROCK [16 pts]		☐	FINE DETRITUS [3 pts]	
☐	COBBLE (65-256 mm) [12 pts]		☒	CLAY or HARDPAN [0 pt]	25
☒	GRAVEL (2-64 mm) [9 pts]	45	☐	MUCK [0 pts]	
☐	SAND (<2 mm) [6 pts]	15	☐	ARTIFICIAL [3 pts]	

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 0 (A) 9

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 9 TOTAL NUMBER OF SUBSTRATE TYPES: (B) 4

HHEI Metric Points — Substrate Max = 40: 13 — A + B

2. Maximum Pool Depth (*Measure the maximum pool depth within the 61 meter (200 feet)* evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

☐	> 30 centimeters [20 pts]	☐	5 cm - 10 cm [15 pts]
☐	> 22.5 - 30 cm [30 pts]	☒	< 5 cm [5pts]
☐	> 10 - 22.5 cm [25 pts]	☐	NO WATER OR MOIST CHANNEL [0pts]

COMMENTS N/A MAXIMUM POOL DEPTH (centimeters): 4.9

Pool Depth Max = 30: 5

3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check *ONLY* one box):

☐	> 4.0 meters (> 13') [30 pts]	☐	> 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
☐	> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	☐	≤ 1.0 m (≤ 3' 3") [5 pts]
☒	> 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]		

COMMENTS N/A AVERAGE BANKFULL WIDTH (meters): 1.6

Bankfull Width Max=30: 20

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream *

RIPARIAN WIDTH (Per Bank) L	R		FLOODPLAIN QUALITY (Most Predominant per Bank) L	R		L	R	
☐	☐	Wide >10m	☐	☐	Mature Forest, Wetland	☐	☐	Conservation Tillage
☒	☒	Moderate 5-10m	☐	☐	Immature Forest, Shrub or Old Field	☐	☐	Urban or Industrial
☐	☐	Narrow <5m	☐	☐	Residential, Park, New Field	☒	☒	Open Pasture, Row Crop
☐	☐	None	☐	☐	Fenced Pasture	☐	☐	Mining or Construction

COMMENTS N/A

FLOW REGIME (*At Time of Evaluation*) (Check *ONLY* one box):

☐	Stream Flowing	☒	Moist Channel, isolated pools, no flow (intermittent)
☐	Subsurface flow with isolated pools (interstitial)	☐	Dry channel, no water (ephemeral)

COMMENTS N/A

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

☐	None	☐	1.0	☐	2.0	☐	3.0
☐	0.5	☐	1.5	☒	2.5	☐	>3

STREAM GRADIENT ESTIMATE

☐ Flat (0.5 ft/100 ft) ☒ Flat to Moderate ☐ Moderate (2 ft/100 ft) ☐ Moderate to Severe ☐ Severe (10 ft/100 ft)

Intermittent Stream 1-006

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? ☐Yes ☒No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

☒ WWH Name: Dry Run Distance from Evaluated Stream 0.0

☐ CWH Name: _____ Distance from Evaluated Stream _____

☐ EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Clarksburg / Williamsport NRCS Soil Map Page: - NRCS Soil Map Stream Order: -

County: Pickaway Township/City: Deer Creek / Williamsport

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: - Quantity: -

Photo-documentation Notes: Upstream, Downstream + Substrate

Elevated Turbidity? (Y/N): N Canopy (% open): -

Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): -

Field Measures: Temp (°C) - Dissolved Oxygen (mg/l) - pH (S.U.) - Conductivity (umhos/cm) -

Is the sampling reach representative of the stream (Y/N) N If not, explain: N/A

Additional comments/description of pollution impacts: N/A

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): N/A

Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): N/A

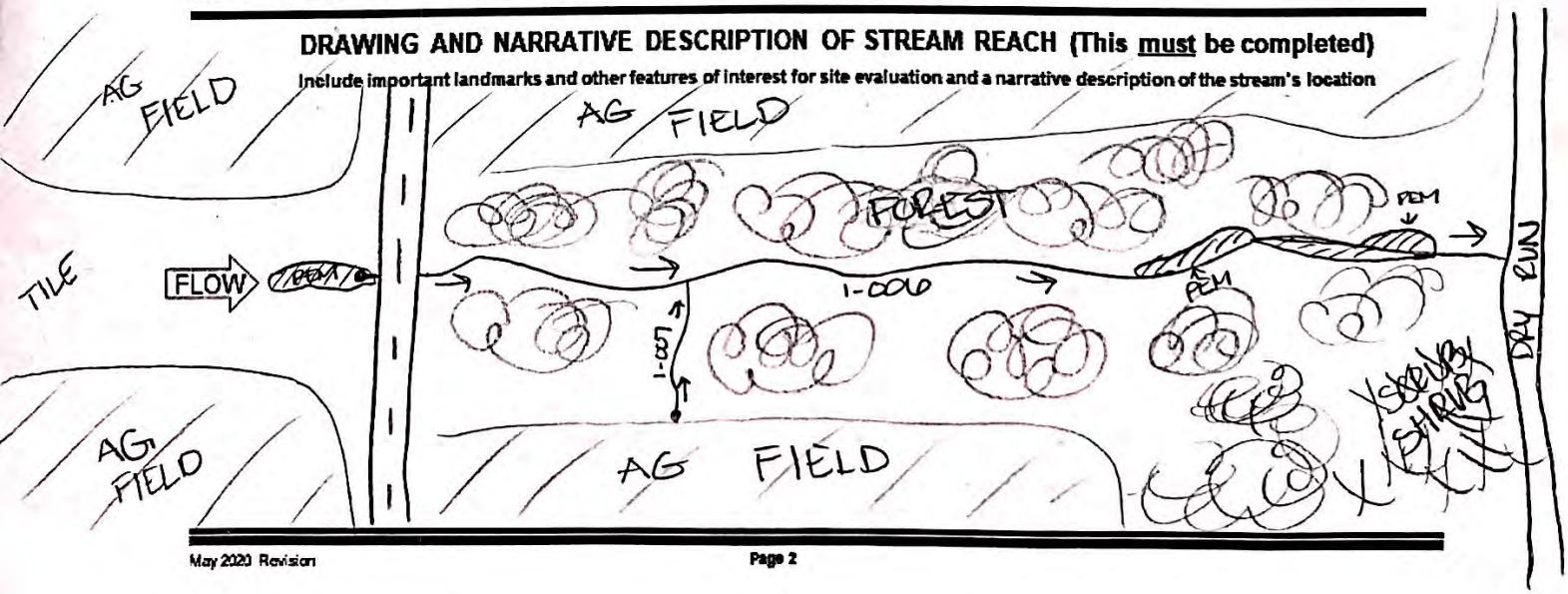
Salamanders Observed? (Y/N) N Species observed (if known): N/A

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): N/A

Comments Regarding Biology: N/A

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Ephemeral Stream 1-007

Ohio Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3) 11

SITE NAME/LOCATION 1784 Chipmunk Solar
SITE NUMBER 1-007 RIVER BASIN Scioto River RIVER CODE — DRAINAGE AREA (mi²) 0.00007
LENGTH OF STREAM REACH (ft) 200 ft LAT 39.1615823 LONG -83.1242416 RIVER MILE —
DATE 8/20/21 SCORER E. Wilson COMMENTS N/A

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: ☒ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type present). Check *ONLY two* predominant substrate *TYPE* boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B

TYPE		PERCENT	TYPE		PERCENT
☐	BLDR SLABS [16 pts]		☐	SILT [3 pt]	
☐	BOULDER (>256 mm) [16 pts]		☐	LEAF PACK/WOODY DEBRIS [3 pts]	10
☐	BEDROCK [16 pts]		☒	FINE DETRITUS [3 pts]	20
☐	COBBLE (65-256 mm) [12 pts]		☒	CLAY or HARDPAN [0 pt]	70
☐	GRAVEL (2-64 mm) [9 pts]		☐	MUCK [0 pts]	
☐	SAND (<2 mm) [6 pts]		☐	ARTIFICIAL [3 pts]	

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 0 (A)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3 TOTAL NUMBER OF SUBSTRATE TYPES: (B) 3

HHEI Metric Points Substrate Max = 40: 6 A + B

2. Maximum Pool Depth (*Measure the maximum pool depth within the 61 meter (200 feet)* evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

- ☐ > 30 centimeters [20 pts]
- ☐ > 22.5 - 30 cm [30 pts]
- ☐ > 10 - 22.5 cm [25 pts]
- ☐ 5 cm - 10 cm [15 pts]
- ☐ < 5 cm [5pts]
- ☒ NO WATER OR MOIST CHANNEL [0pts]

COMMENTS N/A MAXIMUM POOL DEPTH (centimeters): .5

Pool Depth Max = 30: 0

3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check *ONLY* one box):

- ☐ > 4.0 meters (> 13') [30 pts]
- ☐ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]
- ☐ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]
- ☐ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
- ☒ ≤ 1.0 m (≤ 3' 3") [5 pts]

COMMENTS N/A AVERAGE BANKFULL WIDTH (meters): .7

Bankfull Width Max=30: 5

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream *

RIPARIAN WIDTH (Per Bank) L	R		FLOODPLAIN QUALITY (Most Predominant per Bank) L	R		L	R	
☐	☐	Wide >10m	☐	☐	Mature Forest, Wetland	☐	☐	Conservation Tillage
☒	☒	Moderate 5-10m	☐	☐	Immature Forest, Shrub or Old Field	☐	☐	Urban or Industrial
☐	☐	Narrow <5m	☐	☐	Residential, Park, New Field	☐	☐	Open Pasture, Row Crop
☐	☐	None	☐	☐	Fenced Pasture	☐	☐	Mining or Construction

COMMENTS N/A

FLOW REGIME (*At Time of Evaluation*) (Check *ONLY* one box):

- ☐ Stream Flowing
- ☐ Subsurface flow with isolated pools (interstitial)
- ☐ Moist Channel, isolated pools, no flow (intermittent)
- ☒ Dry channel, no water (ephemeral)

COMMENTS N/A

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

☐ None	☐ 1.0	☐ 2.0	☐ 3.0
☒ 0.5	☐ 1.5	☐ 2.5	☐ >3

STREAM GRADIENT ESTIMATE

☒ Flat (0.5 ft/100 ft) ☐ Flat to Moderate ☐ Moderate (2 ft/100 ft) ☐ Moderate to Severe ☐ Severe (10 ft/100 ft)

Ephemeral Stream 1-007

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? ☐Yes ☒No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

☐ WWH Name: _____ Distance from Evaluated Stream _____

☐ CWH Name: _____ Distance from Evaluated Stream _____

☐ EWH Name: _____ Distance from Evaluated Stream _____

UNT

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Williamsport NRCS Soil Map Page: - NRCS Soil Map Stream Order: -

County: Pickaway Township/City: Deer Creek / Williamsport

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: - Quantity: -

Photo-documentation Notes: Upstream, Downstream + Substrate

Elevated Turbidity? (Y/N): N Canopy (% open): -

Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): -

Field Measures: Temp (°C) - Dissolved Oxygen (mg/l) - pH (S.U.) - Conductivity (umhos/cm) -

Is the sampling reach representative of the stream (Y/N) N If not, explain: N/A

Additional comments/description of pollution impacts: N/A

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): N/A

Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): N/A

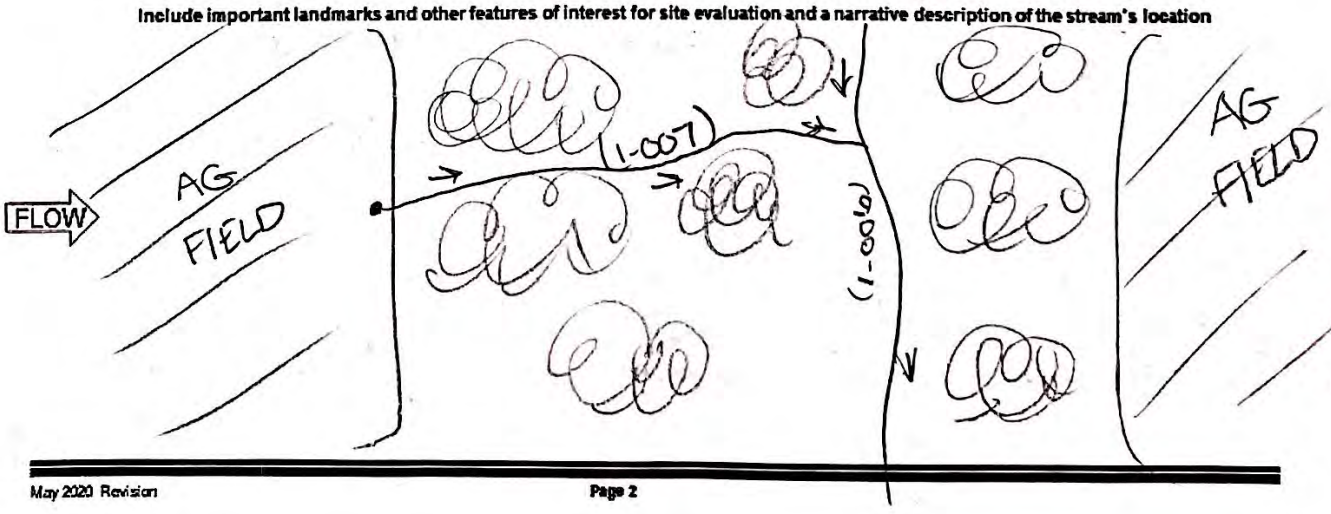
Salamanders Observed? (Y/N) N Species observed (if known): N/A

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): N/A

Comments Regarding Biology: N/A

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Intermittent Stream 1-008

Ohio Headwater Habitat Evaluation Index Field Form

Ohio Environmental Protection Agency

HHEI Score (sum of metrics 1+2+3) 20

SITE NAME/LOCATION 1784 Chipmunk Solar

SITE NUMBER 1-008 RIVER BASIN Scioto River RIVER CODE — DRAINAGE AREA (mi²) 2.11

LENGTH OF STREAM REACH (ft) 200 LAT 39.618542 LONG -83.082985 RIVER MILE —

DATE 8/26/2021 SCORER C.Kwolek COMMENTS Channel has been significantly modified; No QHEI performed

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: ☐ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☒ RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type present). Check *ONLY* two predominant substrate *TYPE* boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B

TYPE		PERCENT	TYPE		PERCENT
☐	BLDR SLABS [16 pts]		☐	SILT [3 pt]	5%
☐	BOULDER (>256 mm) [16 pts]		☐	LEAF PACK/WOODY DEBRIS [3 pts]	
☐	BEDROCK [16 pts]		☐	FINE DETRITUS [3 pts]	15%
☐	COBBLE (65-256 mm) [12 pts]		☐	CLAY or HARDPAN [0 pt]	
☐	GRAVEL (2-64 mm) [9 pts]		☒	MUCK [0 pts]	60%
☒	SAND (<2 mm) [6 pts]	70%	☐	ARTIFICIAL [3 pts]	

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 0% (A)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 6 TOTAL NUMBER OF SUBSTRATE TYPES: (B) 4

HHEI Metric Points Substrate Max = 40: 10 (A + B)

2. Maximum Pool Depth (*Measure the maximum pool depth within the 61 meter (200 feet)* evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

- ☐ > 30 centimeters [20 pts]
- ☐ > 22.5 - 30 cm [30 pts]
- ☐ > 10 - 22.5 cm [25 pts]
- ☐ 5 cm - 10 cm [15 pts]
- ☒ < 5 cm [5pts]
- ☐ NO WATER OR MOIST CHANNEL [0pts]

COMMENTS N/A MAXIMUM POOL DEPTH (centimeters): 2

Pool Depth Max = 30: 5

3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check *ONLY* one box):

- ☐ > 4.0 meters (> 13') [30 pts]
- ☐ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]
- ☐ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]
- ☐ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
- ☒ ≤ 1.0 m (≤ 3' 3") [5 pts]

COMMENTS N/A AVERAGE BANKFULL WIDTH (meters): 1

Bankfull Width Max=30: 5

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★

RIPARIAN WIDTH (Per Bank) L	R		FLOODPLAIN QUALITY (Most Predominant per Bank) L	R		L	R	
☐	☐	Wide >10m	☐	☐	Mature Forest, Wetland	☐	☐	Conservation Tillage
☐	☐	Moderate 5-10m	☐	☐	Immature Forest, Shrub or Old Field	☐	☐	Urban or Industrial
☐	☐	Narrow <5m	☐	☐	Residential, Park, New Field	☒	☒	Open Pasture, Row Crop
☒	☒	None	☐	☐	Fenced Pasture	☐	☐	Mining or Construction

COMMENTS N/A

FLOW REGIME (*At Time of Evaluation*) (Check *ONLY* one box):

- ☐ Stream Flowing
- ☐ Subsurface flow with isolated pools (interstitial)
- ☒ Moist Channel, isolated pools, no flow (intermittent)
- ☐ Dry channel, no water (ephemeral)

COMMENTS Vegetated channel

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

☐ None	☒ 1.0	☐ 2.0	☐ 3.0
☐ 0.5	☐ 1.5	☐ 2.5	☐ >3

STREAM GRADIENT ESTIMATE

☒ Flat (0.5 ft/100 ft) ☐ Flat to Moderate ☐ Moderate (2 ft/100 ft) ☐ Moderate to Severe ☐ Severe (10 ft/100 ft)

Intermittent 1-008

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? ☒ Yes ☐ No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

☒ WWH Name: Yellowbud Creek Distance from Evaluated Stream 0.0

☐ CWH Name: _____ Distance from Evaluated Stream _____

☐ EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Williamsport NRCS Soil Map Page: — NRCS Soil Map Stream Order: —

County: Pickaway Township/City: Jackson / Williamsport

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 8/25/21 Quantity: Unknown

Photo-documentation Notes: Upstream, Downstream, Substrate

Elevated Turbidity? (Y/N): N Canopy (% open): 100%

Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): —

Field Measures: Temp (°C) — Dissolved Oxygen (mg/l) — pH (S.U.) — Conductivity (umhos/cm) —

Is the sampling reach representative of the stream (Y/N) Y If not, explain: N/A

Additional comments/description of pollution impacts: Agriculture.

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): N/A

Frogs or Tadpoles Observed? (Y/N) Y Species observed (if known): Unidentified

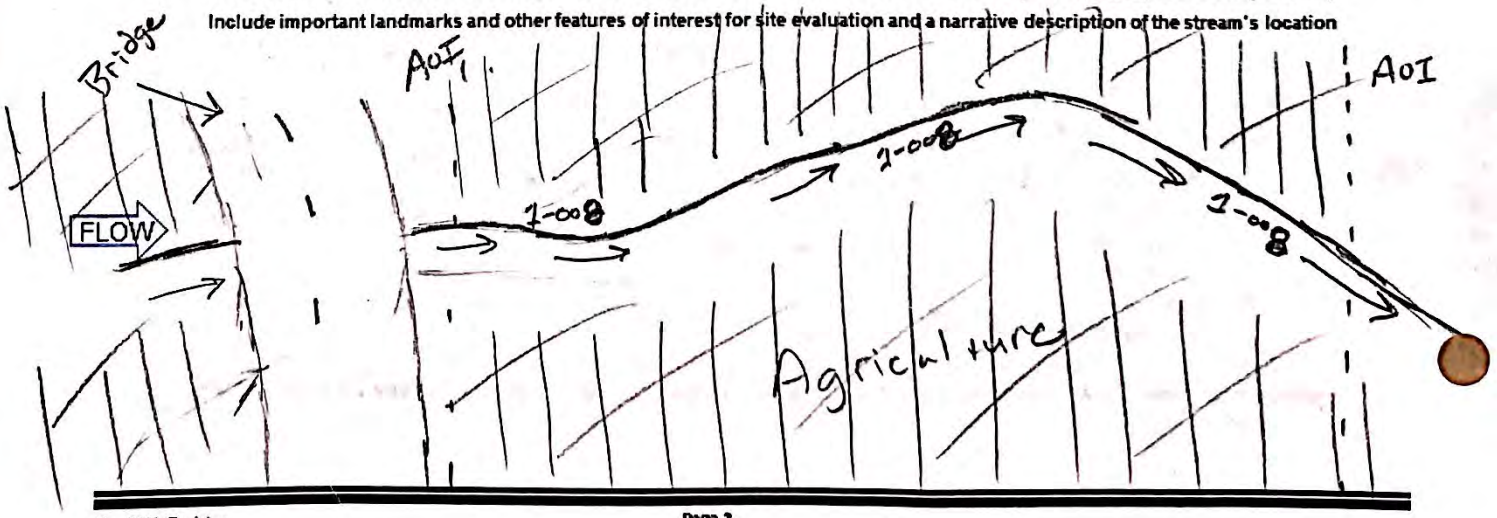
Salamanders Observed? (Y/N) N Species observed (if known): N/A

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): N/A

Comments Regarding Biology: N/A

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Perennial Stream 1-009

Headwater Habitat Evaluation Index Field Form

Ohio Environmental Protection Agency

HHEI Score (sum of metrics 1+2+3) 63

SITE NAME/LOCATION 1784 Chipmunk Solar

SITE NUMBER 1-009 RIVER BASIN Scioto River RIVER CODE — DRAINAGE AREA (mi²) 0.64

LENGTH OF STREAM REACH (ft) 200 ft LAT 39.6109407 LONG -83.1411642 RIVER MILE —

DATE 9/1/21 SCORER E. Wilson COMMENTS N/A

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: ☒ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type present). Check *ONLY two* predominant substrate *TYPE* boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B

TYPE		PERCENT	TYPE		PERCENT
☐	BLDR SLABS [16 pts]		☐	SILT [3 pt]	
☐	BOULDER (>256 mm) [16 pts]		☐	LEAF PACK/WOODY DEBRIS [3 pts]	
☐	BEDROCK [16 pts]		☐	FINE DETRITUS [3 pts]	
☐	COBBLE (65-256 mm) [12 pts]	10	☐	CLAY or HARDPAN [0 pt]	
☒	GRAVEL (2-64 mm) [9 pts]	70	☐	MUCK [0 pts]	
☒	SAND (<2 mm) [6 pts]	20	☐	ARTIFICIAL [3 pts]	

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 10 (A)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 15 TOTAL NUMBER OF SUBSTRATE TYPES: (B) 3

HHEI Metric Points — Substrate Max = 40: 18 — A + B

2. Maximum Pool Depth (*Measure the maximum pool depth within the 61 meter (200 feet)* evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

- ☐ > 30 centimeters [20 pts]
- ☐ > 22.5 - 30 cm [30 pts]
- ☒ > 10 - 22.5 cm [25 pts]
- ☐ 5 cm - 10 cm [15 pts]
- ☐ < 5 cm [5pts]
- ☐ NO WATER OR MOIST CHANNEL [0pts]

COMMENTS N/A MAXIMUM POOL DEPTH (centimeters): 22.5

Pool Depth Max = 30: 25

3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check *ONLY* one box):

- ☐ > 4.0 meters (> 13') [30 pts]
- ☐ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]
- ☒ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]
- ☐ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
- ☐ ≤ 1.0 m (≤ 3' 3") [5 pts]

COMMENTS N/A AVERAGE BANKFULL WIDTH (meters): 1.5

Bankfull Width Max=30: 20

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream *

RIPARIAN WIDTH (Per Bank) L	R	FLOODPLAIN QUALITY (Most Predominant per Bank) L	R	L	R
☒	☒ Wide >10m	☒	☒ Mature Forest, Wetland	☐	☐ Conservation Tillage
☐	☐ Moderate 5-10m	☐	☐ Immature Forest, Shrub or Old Field	☐	☐ Urban or Industrial
☐	☐ Narrow <5m	☐	☐ Residential, Park, New Field	☐	☐ Open Pasture, Row Crop
☐	☐ None	☐	☐ Fenced Pasture	☐	☐ Mining or Construction

COMMENTS N/A

FLOW REGIME (*At Time of Evaluation*) (Check *ONLY* one box):

- ☒ Stream Flowing
- ☐ Subsurface flow with isolated pools (interstitial)
- ☐ Moist Channel, isolated pools, no flow (intermittent)
- ☐ Dry channel, no water (ephemeral)

COMMENTS N/A

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

☐ None	☐ 1.0	☐ 2.0	☐ 3.0
☐ 0.5	☒ 1.5	☐ 2.5	☐ >3

STREAM GRADIENT ESTIMATE

☒ Flat (0.5 ft/100 ft) ☐ Flat to Moderate ☐ Moderate (2 ft/100 ft) ☐ Moderate to Severe ☐ Severe (10 ft/100 ft)

Perennial Stream 1-009

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? ☐Yes ☒No QHEI Score ____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

☐ WWH Name: — Distance from Evaluated Stream —

☐ CWH Name: — Distance from Evaluated Stream —

☐ EWH Name: — Distance from Evaluated Stream —

UNT

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Clarksburg NRCS Soil Map Page: — NRCS Soil Map Stream Order: —

County: Pickaway Township/City: Deer Creek / Williamsport

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: — Quantity: —

Photo-documentation Notes: Upstream, Downstream + Substrate

Elevated Turbidity? (Y/N): N Canopy (% open): —

Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): —

Field Measures: Temp (°C) — Dissolved Oxygen (mg/l) — pH (S.U.) — Conductivity (umhos/cm) —

Is the sampling reach representative of the stream (Y/N) N If not, explain: N/A

Additional comments/description of pollution impacts: N/A

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) Y Species observed (if known): Unknown

Frogs or Tadpoles Observed? (Y/N) Y Species observed (if known): Unknown

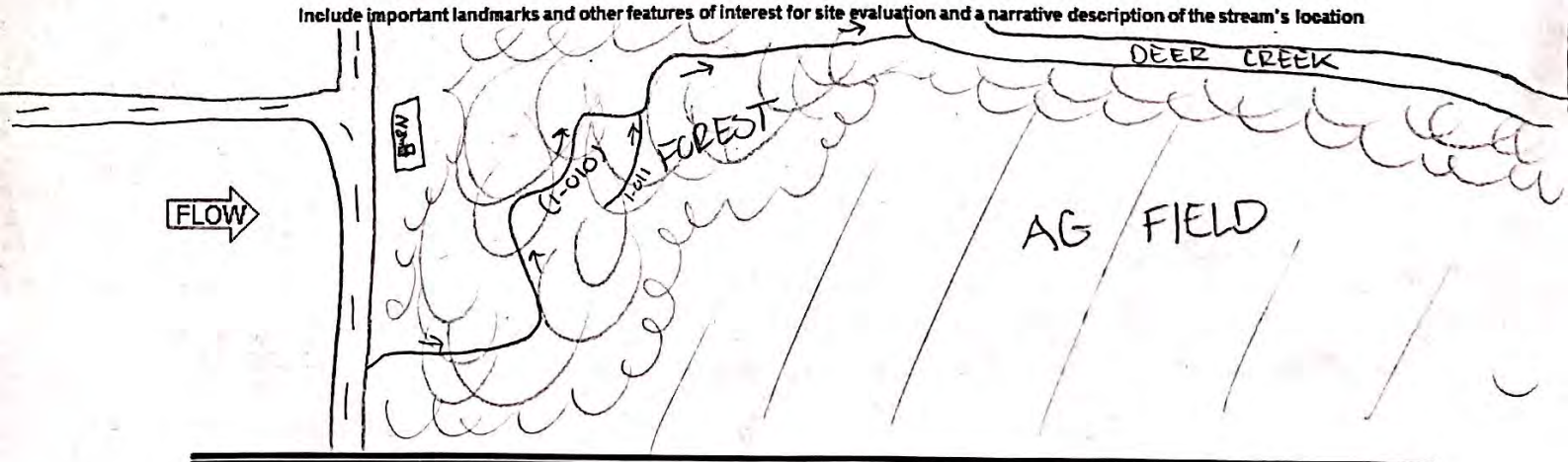
Salamanders Observed? (Y/N) N Species observed (if known): N/A

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): N/A

Comments Regarding Biology: N/A

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Intermittent Stream 1-010

Headwater Habitat Evaluation Index Field Form

Ohio Environmental Protection Agency

HHEI Score (sum of metrics 1+2+3) 27

SITE NAME/LOCATION 1784 Chipmunk Solar
SITE NUMBER 1-010 RIVER BASIN Scioto River RIVER CODE — DRAINAGE AREA (mi²) 0.164
LENGTH OF STREAM REACH (ft) 200ft LAT 39.6106620 LONG -83.142010 RIVER MILE —
DATE 9/1/21 SCORER C. Kwolek COMMENTS Influenced from wetland 1-AR (PEM)

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: ☒ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type present). Check *ONLY* two predominant substrate *TYPE* boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B

TYPE		PERCENT	TYPE		PERCENT
☐	BLDR SLABS [16 pts]		☐	SILT [3 pt]	15
☐	BOULDER (>256 mm) [16 pts]		☐	LEAF PACK/WOODY DEBRIS [3 pts]	10
☐	BEDROCK [16 pts]		☐	FINE DETRITUS [3 pts]	
☐	COBBLE (65-256 mm) [12 pts]		☐	CLAY or HARDPAN [0 pt]	
☒	GRAVEL (2-64 mm) [9 pts]	50	☐	MUCK [0 pts]	5
☐	SAND (<2 mm) [6 pts]	10	☐	ARTIFICIAL [3 pts]	

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 0 (A) 12

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 12 TOTAL NUMBER OF SUBSTRATE TYPES: (B) 5

HHEI Metric Points Substrate Max = 40: 17 A + B

2. Maximum Pool Depth (*Measure the maximum pool depth within the 61 meter (200 feet)* evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

- ☐ > 30 centimeters [20 pts]
- ☐ > 22.5 - 30 cm [30 pts]
- ☐ > 10 - 22.5 cm [25 pts]
- ☐ 5 cm - 10 cm [15 pts]
- ☒ < 5 cm [5pts]
- ☐ NO WATER OR MOIST CHANNEL [0pts]

COMMENTS N/A MAXIMUM POOL DEPTH (centimeters): 4.9

Pool Depth Max = 30: 5

3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check *ONLY* one box):

- ☐ > 4.0 meters (> 13') [30 pts]
- ☐ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]
- ☐ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]
- ☐ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
- ☒ ≤ 1.0 m (≤ 3' 3") [5 pts]

COMMENTS N/A AVERAGE BANKFULL WIDTH (meters): .6

Bankfull Width Max=30: 5

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream *

RIPARIAN WIDTH (Per Bank) L	R		FLOODPLAIN QUALITY (Most Predominant per Bank) L	R		L	R	
☐	☐	Wide >10m	☒	☒	Mature Forest, Wetland	☐	☐	Conservation Tillage
☒	☒	Moderate 5-10m	☐	☐	Immature Forest, Shrub or Old Field	☐	☐	Urban or Industrial
☐	☐	Narrow <5m	☐	☐	Residential, Park, New Field	☐	☐	Open Pasture, Row Crop
☐	☐	None	☐	☐	Fenced Pasture	☐	☐	Mining or Construction

COMMENTS N/A

FLOW REGIME (*At Time of Evaluation*) (Check *ONLY* one box):

- ☐ Stream Flowing
- ☐ Subsurface flow with isolated pools (interstitial)
- ☒ Moist Channel, isolated pools, no flow (intermittent)
- ☐ Dry channel, no water (ephemeral)

COMMENTS N/A

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

- ☒ None
- ☐ 0.5
- ☐ 1.0
- ☐ 1.5
- ☐ 2.0
- ☐ 2.5
- ☐ 3.0
- ☐ >3

STREAM GRADIENT ESTIMATE

☒ Flat (0.5 ft/100 ft) ☐ Flat to Moderate ☐ Moderate (2 ft/100 ft) ☐ Moderate to Severe ☐ Severe (10 ft/100 ft)

Intermittent Stream 1-010

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? ☐Yes ☒No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

☐ WWH Name: UNT Distance from Evaluated Stream —

☐ CWH Name: — Distance from Evaluated Stream —

☐ EWH Name: — Distance from Evaluated Stream —

UNT

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Clarksburg NRCS Soil Map Page: — NRCS Soil Map Stream Order: —

County: Pickaway Township/City: Deer Creek / Williamsport

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: — Quantity: —

Photo-documentation Notes: Upstream, Downstream + Substrate

Elevated Turbidity? (Y/N): N Canopy (% open): —

Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): —

Field Measures: Temp (°C) — Dissolved Oxygen (mg/l) — pH (S.U.) — Conductivity (umhos/cm) —

Is the sampling reach representative of the stream (Y/N) N If not, explain: N/A

Additional comments/description of pollution impacts: N/A

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): N/A

Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): N/A

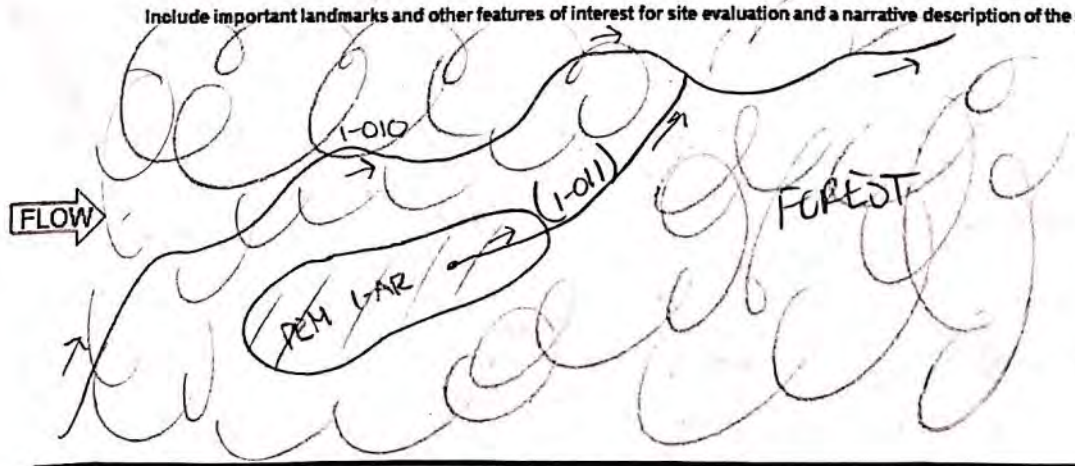
Salamanders Observed? (Y/N) N Species observed (if known): N/A

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): N/A

Comments Regarding Biology: N/A

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Intermittent Stream 1-011

Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3) 43

SITE NAME/LOCATION 1784 Chipmunk Solar
SITE NUMBER 1-011 RIVER BASIN Scioto River RIVER CODE — DRAINAGE AREA (mi²) 0.09
LENGTH OF STREAM REACH (ft) 200ft LAT 39.60273124 LONG -83.13941160 RIVER MILE —
DATE 9/1/2021 SCORER C. Kwolek COMMENTS Drains into a tile system.

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: ☒ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type present). Check *ONLY* two predominant substrate *TYPE* boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B

TYPE		PERCENT	TYPE		PERCENT
☐	BLDR SLABS [16 pts]		☐	SILT [3 pt]	
☐	BOULDER (>256 mm) [16 pts]		☐	LEAF PACK/WOODY DEBRIS [3 pts]	
☐	BEDROCK [16 pts]		☐	FINE DETRITUS [3 pts]	
☐	COBBLE (65-256 mm) [12 pts]	5	☒	CLAY or HARDPAN [0 pt]	50
☒	GRAVEL (2-64 mm) [9 pts]	40	☐	MUCK [0 pts]	
☐	SAND (<2 mm) [6 pts]	5	☐	ARTIFICIAL [3 pts]	

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 5 (A) 9 (B) 4

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 9 TOTAL NUMBER OF SUBSTRATE TYPES: 4

HHEI Metric Points Substrate Max = 40: 13 (A + B)

2. Maximum Pool Depth (*Measure the maximum pool depth within the 61 meter (200 feet)* evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

- ☐ > 30 centimeters [20 pts]
- ☐ > 22.5 - 30 cm [30 pts]
- ☐ > 10 - 22.5 cm [25 pts]
- ☒ 5 cm - 10 cm [15 pts]
- ☐ < 5 cm [5pts]
- ☐ NO WATER OR MOIST CHANNEL [0pts]

COMMENTS N/A MAXIMUM POOL DEPTH (centimeters): 10

Pool Depth Max = 30: 15

3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check *ONLY* one box):

- ☐ > 4.0 meters (> 13') [30 pts]
- ☐ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]
- ☐ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]
- ☒ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
- ☐ ≤ 1.0 m (≤ 3' 3") [5 pts]

COMMENTS N/A AVERAGE BANKFULL WIDTH (meters): 1.4

Bankfull Width Max=30: 15

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream *

RIPARIAN WIDTH (Per Bank) L	R	FLOODPLAIN QUALITY (Most Predominant per Bank) L	R		L	R	
☐	☐	Wide >10m	☒	☒	Mature Forest, Wetland	☐	☐	Conservation Tillage
☒	☒	Moderate 5-10m	☐	☐	Immature Forest, Shrub or Old Field	☐	☐	Urban or Industrial
☐	☐	Narrow <5m	☐	☐	Residential, Park, New Field	☐	☐	Open Pasture, Row Crop
☐	☐	None	☐	☐	Fenced Pasture	☐	☐	Mining or Construction

COMMENTS N/A

FLOW REGIME (*At Time of Evaluation*) (Check *ONLY* one box):

- ☐ Stream Flowing
- ☐ Subsurface flow with isolated pools (interstitial)
- ☒ Moist Channel, isolated pools, no flow (intermittent)
- ☐ Dry channel, no water (ephemeral)

COMMENTS N/A

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

☐ None	☐ 1.0	☒ 2.0	☐ 3.0
☐ 0.5	☐ 1.5	☐ 2.5	☐ >3

STREAM GRADIENT ESTIMATE

☒ Flat (0.5 ft/100 ft) ☐ Flat to Moderate ☐ Moderate (2 ft/100 ft) ☐ Moderate to Severe ☐ Severe (10 ft/100 ft)

Intermittent Stream 1-011

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? ☐Yes ☒No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

UNT

☐ WWH Name: — Distance from Evaluated Stream —
☐ CWH Name: — Distance from Evaluated Stream —
☐ EWH Name: — Distance from Evaluated Stream —

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Clarksburg NRCS Soil Map Page: — NRCS Soil Map Stream Order: —

County: Pickaway Township/City: Deer Creek / Williamsport

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: — Quantity: —

Photo-documentation Notes: Upstream, Downstream + Substrate

Elevated Turbidity? (Y/N): N Canopy (% open): —

Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): —

Field Measures: Temp (°C) — Dissolved Oxygen (mg/l) — pH (S.U.) — Conductivity (umhos/cm) —

Is the sampling reach representative of the stream (Y/N) N If not, explain: N/A

Additional comments/description of pollution impacts: N/A

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): N/A

Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): N/A

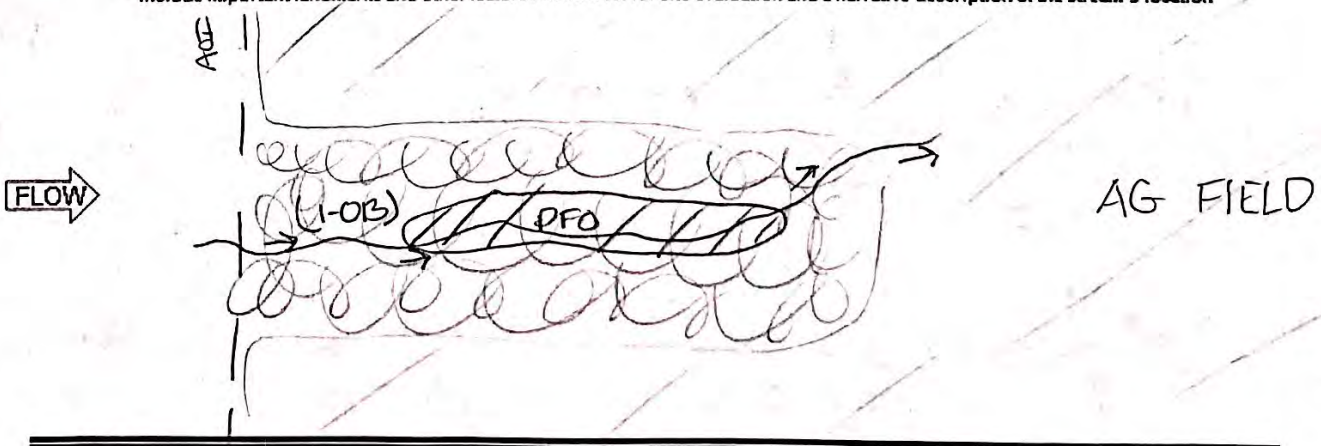
Salamanders Observed? (Y/N) N Species observed (if known): N/A

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): N/A

Comments Regarding Biology: N/A

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Intermittent Stream 1-012

Ohio Headwater Habitat Evaluation Index Field Form

Ohio Environmental Protection Agency

HHEI Score (sum of metrics 1+2+3) 53

SITE NAME/LOCATION 1784 Chipmunk Solar
SITE NUMBER 1-012 RIVER BASIN Scioto River RIVER CODE — DRAINAGE AREA (mi²) 0.606
LENGTH OF STREAM REACH (ft) 200 ft LAT 39.595350 LONG -83.131038 RIVER MILE —
DATE 9/1/21 SCORER C. Kwolek COMMENTS N/A

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: ☒ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type present). Check *ONLY two* predominant substrate *TYPE* boxes. (Max of 32). Add total number of significant substrate types found (Max of 6). Final metric score is sum of boxes A & B

TYPE		PERCENT	TYPE		PERCENT
☐	BLDR SLABS [16 pts]		☐	SILT [3 pt]	
☐	BOULDER (>256 mm) [16 pts]		☐	LEAF PACK/WOODY DEBRIS [3 pts]	
☐	BEDROCK [16 pts]		☐	FINE DETRITUS [3 pts]	
☐	COBBLE (65-256 mm) [12 pts]	10	☐	CLAY or HARDPAN [0 pt]	
☒	GRAVEL (2-64 mm) [9 pts]	70	☐	MUCK [0 pts]	
☐	SAND (<2 mm) [6 pts]	20	☐	ARTIFICIAL [3 pts]	

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 10% (A)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 15 TOTAL NUMBER OF SUBSTRATE TYPES: (B) 3

HHEI Metric Points Substrate Max = 40: 18 A + B

2. Maximum Pool Depth (*Measure the maximum pool depth within the 61 meter (200 feet)* evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

☐ > 30 centimeters [20 pts]
☐ > 22.5 - 30 cm [30 pts]
☐ > 10 - 22.5 cm [25 pts]
☒ 5 cm - 10 cm [15 pts]
☐ < 5 cm [5pts]
☐ NO WATER OR MOIST CHANNEL [0pts]

COMMENTS Isolated pools / moist stream MAXIMUM POOL DEPTH (centimeters): 5.4

Pool Depth Max = 30: 15

3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check *ONLY* one box):

☐ > 4.0 meters (> 13') [30 pts]
☐ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]
☒ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]
☐ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
☐ ≤ 1.0 m (≤ 3' 3") [5 pts]

COMMENTS — AVERAGE BANKFULL WIDTH (meters): 1.6

Bankfull Width Max=30: 20

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream★

RIPARIAN WIDTH (Per Bank) L	R		FLOODPLAIN QUALITY (Most Predominant per Bank) L	R		L	R	
☐	☐	Wide >10m	☐	☐	Mature Forest, Wetland	☐	☐	Conservation Tillage
☒	☒	Moderate 5-10m	☐	☐	Immature Forest, Shrub or Old Field	☐	☐	Urban or Industrial
☐	☐	Narrow <5m	☐	☐	Residential, Park, New Field	☒	☒	Open Pasture, Row Crop
☐	☐	None	☐	☐	Fenced Pasture	☐	☐	Mining or Construction

COMMENTS N/A

FLOW REGIME (*At Time of Evaluation*) (Check *ONLY* one box):

☐ Stream Flowing
☐ Subsurface flow with isolated pools (interstitial)
☒ Moist Channel, isolated pools, no flow (intermittent)
☐ Dry channel, no water (ephemeral)

COMMENTS N/A

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

☐ None ☐ 0.5 ☐ 1.0 ☐ 1.5 ☐ 2.0 ☒ 2.5 ☐ 3.0 ☐ >3

STREAM GRADIENT ESTIMATE

☒ Flat (0.5 ft/100 ft) ☐ Flat to Moderate ☐ Moderate (2 ft/100 ft) ☐ Moderate to Severe ☐ Severe (10 ft/100 ft)

Intermittent Stream 1-012

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? ☐Yes ☒No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

☐ WWH Name: _____ Distance from Evaluated Stream _____

☐ CWH Name: _____ Distance from Evaluated Stream _____

☒ EWH Name: Deer Creek Distance from Evaluated Stream 0.1 mi

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Clarksburg NRCS Soil Map Page: - NRCS Soil Map Stream Order: -

County: Pickaway Township/City: Deer Creek / Williamsport

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: - Quantity: -

Photo-documentation Notes: Upstream, Downstream + Substrate

Elevated Turbidity? (Y/N): N Canopy (% open): -

Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): -

Field Measures: Temp (°C) - Dissolved Oxygen (mg/l) - pH (S.U.) - Conductivity (umhos/cm) -

Is the sampling reach representative of the stream (Y/N) N If not, explain: N/A

Additional comments/description of pollution impacts: N/A

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): N/A

Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): N/A

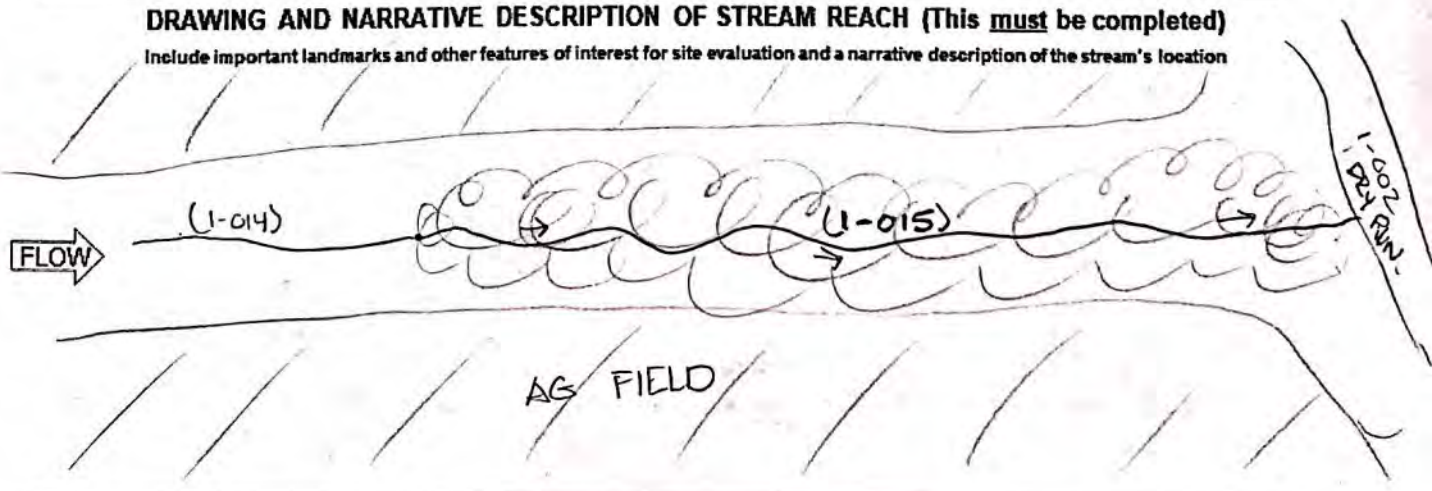
Salamanders Observed? (Y/N) N Species observed (if known): N/A

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): N/A

Comments Regarding Biology: N/A

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Intermittent Stream 1-013

Ohio Headwater Habitat Evaluation Index Field Form

Ohio Environmental Protection Agency

HHEI Score (sum of metrics 1+2+3) 24

SITE NAME/LOCATION 1784 Chipmunk Solar

SITE NUMBER 1-013 RIVER BASIN Scioto River RIVER CODE — DRAINAGE AREA (mi²) 0.000386

LENGTH OF STREAM REACH (ft) 200ft LAT 39.599851 LONG -83.129238 RIVER MILE —

DATE 8/31/21 SCORER C. Kwolek COMMENTS Small stream that flows out of ditch 1-012 banks.

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: ☒ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type present). Check *ONLY* two predominant substrate *TYPE* boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B

TYPE		PERCENT	TYPE		PERCENT
☐	BLDR SLABS [16 pts]		☐	SILT [3 pt]	5%
☐	BOULDER (>256 mm) [16 pts]		☐	LEAF PACK/WOODY DEBRIS [3 pts]	
☐	BEDROCK [16 pts]		☐	FINE DETRITUS [3 pts]	10%
☐	COBBLE (65-256 mm) [12 pts]	5%	☐	CLAY or HARDPAN [0 pt]	
☒	GRAVEL (2-64 mm) [9 pts]	60%	☑	MUCK [0 pts]	20%
☐	SAND (<2 mm) [6 pts]		☐	ARTIFICIAL [3 pts]	

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 5% (A) SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 9 (B) TOTAL NUMBER OF SUBSTRATE TYPES: 5

HHEI Metric Points Substrate Max = 40: 14 (A + B)

2. Maximum Pool Depth (*Measure the maximum pool depth within the 61 meter (200 feet)* evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

- ☐ > 30 centimeters [20 pts]
- ☐ > 22.5 - 30 cm [30 pts]
- ☐ > 10 - 22.5 cm [25 pts]
- ☐ 5 cm - 10 cm [15 pts]
- ☒ < 5 cm [5pts]
- ☐ NO WATER OR MOIST CHANNEL [0pts]

COMMENTS — MAXIMUM POOL DEPTH (centimeters): 2

Pool Depth Max = 30: 5

3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check *ONLY* one box):

- ☐ > 4.0 meters (> 13') [30 pts]
- ☐ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]
- ☐ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]
- ☐ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
- ☒ ≤ 1.0 m (≤ 3' 3") [5 pts]

COMMENTS — AVERAGE BANKFULL WIDTH (meters): 1.0

Bankfull Width Max=30: 5

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★

RIPARIAN WIDTH (Per Bank) L	R	FLOODPLAIN QUALITY (Most Predominant per Bank) L	R	L	R
☐	☐ Wide >10m	☐	☐ Mature Forest, Wetland	☐	☐ Conservation Tillage
☐	☐ Moderate 5-10m	☒	☒ Immature Forest, Shrub or Old Field	☐	☐ Urban or Industrial
☐	☐ Narrow <5m	☐	☐ Residential, Park, New Field	☐	☐ Open Pasture, Row Crop
☒	☒ None	☐	☐ Fenced Pasture	☐	☐ Mining or Construction

COMMENTS N/A

FLOW REGIME (*At Time of Evaluation*) (Check *ONLY* one box):

- ☐ Stream Flowing
- ☒ Subsurface flow with isolated pools (interstitial)
- ☐ Moist Channel, isolated pools, no flow (intermittent)
- ☐ Dry channel, no water (ephemeral)

COMMENTS N/A

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

- ☒ None
- ☐ 0.5
- ☐ 1.0
- ☐ 1.5
- ☐ 2.0
- ☐ 2.5
- ☐ 3.0
- ☐ >3

STREAM GRADIENT ESTIMATE

☒ Flat (0.5 ft/100 ft) ☐ Flat to Moderate ☐ Moderate (2 ft/100 ft) ☐ Moderate to Severe ☐ Severe (10 ft/100 ft)

Intermittent Stream 1-013

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? ☐Yes ☒No QHEI Score ____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

☐ WWH Name: — Distance from Evaluated Stream —

☐ CWH Name: — Distance from Evaluated Stream — UNT

☐ EWH Name: — Distance from Evaluated Stream —

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Clarksburg NRCS Soil Map Page: — NRCS Soil Map Stream Order: —

County: Pickaway Township/City: Deer Creek / Williamsport

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: — Quantity: —

Photo-documentation Notes: Upstream, Downstream + Substrate

Elevated Turbidity? (Y/N): N Canopy (% open): —

Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): —

Field Measures: Temp (°C) — Dissolved Oxygen (mg/l) — pH (S.U.) — Conductivity (umhos/cm) —

Is the sampling reach representative of the stream (Y/N) N If not, explain: N/A

Additional comments/description of pollution impacts: N/A

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): —

Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): —

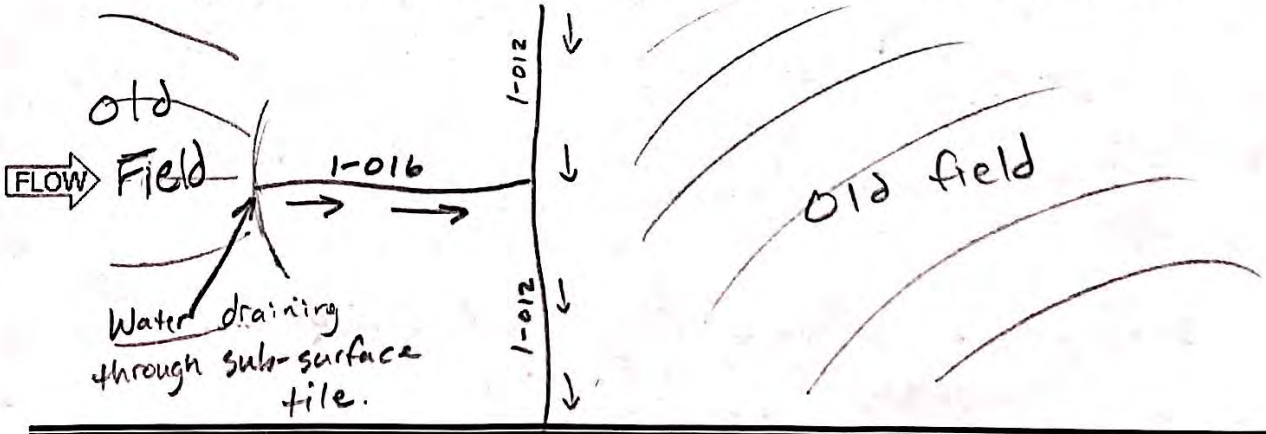
Salamanders Observed? (Y/N) N Species observed (if known): —

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): —

Comments Regarding Biology: N/A

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Perennial Stream 1-014

Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3) 50

SITE NAME/LOCATION 1784 Chipmunk Solar
SITE NUMBER 1-014 RIVER BASIN Scioto River RIVER CODE — DRAINAGE AREA (mi²) 0.000348
LENGTH OF STREAM REACH (ft) 200ft LAT 39.598494 LONG -83.128461 RIVER MILE —
DATE 8/31/21 SCORER C.Kwolek COMMENTS

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: ☒ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type present). Check *ONLY* two predominant substrate *TYPE* boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B

TYPE		PERCENT	TYPE		PERCENT
☐	BLDR SLABS [16 pts]		☐	SILT [3 pt]	
☐	BOULDER (>256 mm) [16 pts]		☐	LEAF PACK/WOODY DEBRIS [3 pts]	
☐	BEDROCK [16 pts]		☐	FINE DETRITUS [3 pts]	10%
☐	COBBLE (65-256 mm) [12 pts]	10%	☐	CLAY or HARDPAN [0 pt]	
☒	GRAVEL (2-64 mm) [9 pts]	5%	☐	MUCK [0 pts]	5%
☑	SAND (<2 mm) [6 pts]	100%	☐	ARTIFICIAL [3 pts]	

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 10% (A)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 15 TOTAL NUMBER OF SUBSTRATE TYPES: (B) 5

HHEI Metric Points Substrate Max = 40: 20 (A + B)

2. Maximum Pool Depth (*Measure the maximum pool depth within the 61 meter (200 feet)* evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

- ☐ > 30 centimeters [20 pts]
- ☐ > 22.5 - 30 cm [30 pts]
- ☐ > 10 - 22.5 cm [25 pts]
- ☒ 5 cm - 10 cm [15 pts]
- ☐ < 5 cm [5pts]
- ☐ NO WATER OR MOIST CHANNEL [0pts]

COMMENTS N/A MAXIMUM POOL DEPTH (centimeters): 9

Pool Depth Max = 30: 15

3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check *ONLY* one box):

- ☐ > 4.0 meters (> 13') [30 pts]
- ☐ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]
- ☐ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]
- ☑ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
- ☐ ≤ 1.0 m (≤ 3' 3") [5 pts]

COMMENTS N/A AVERAGE BANKFULL WIDTH (meters): 1.25

Bankfull Width Max=30: 15

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream *

RIPARIAN WIDTH (Per Bank) L	R		FLOODPLAIN QUALITY (Most Predominant per Bank) L	R		L	R	
☒	☐	Wide >10m	☒	☐	Mature Forest, Wetland	☐	☐	Conservation Tillage
☐	☐	Moderate 5-10m	☐	☑	Immature Forest, Shrub or Old Field	☐	☐	Urban or Industrial
☐	☒	Narrow <5m	☐	☐	Residential, Park, New Field	☐	☐	Open Pasture, Row Crop
☐	☐	None	☐	☐	Fenced Pasture	☐	☐	Mining or Construction

COMMENTS N/A

FLOW REGIME (*At Time of Evaluation*) (Check *ONLY* one box):

- ☒ Stream Flowing
- ☐ Subsurface flow with isolated pools (interstitial)
- ☐ Moist Channel, isolated pools, no flow (intermittent)
- ☐ Dry channel, no water (ephemeral)

COMMENTS N/A

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

☐ None	☒ 1.0	☐ 2.0	☐ 3.0
☐ 0.5	☐ 1.5	☐ 2.5	☐ >3

STREAM GRADIENT ESTIMATE

☐ Flat (0.5 ft/100 ft) ☑ Flat to Moderate ☐ Moderate (2 ft/100 ft) ☐ Moderate to Severe ☐ Severe (10 ft/100 ft)

Perennial Stream 1-014

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? ☐Yes ☒No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

☐ WWH Name: _____ Distance from Evaluated Stream _____

☐ CWH Name: _____ Distance from Evaluated Stream _____

☒ EWH Name: Deer Creek Distance from Evaluated Stream 0m

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Clarksburg NRCS Soil Map Page: - NRCS Soil Map Stream Order: -

County: Pickaway Township/City: Deer Creek / Williamsport

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: - Quantity: -

Photo-documentation Notes: Upstream, Downstream + Substrate

Elevated Turbidity? (Y/N): N Canopy (% open): -

Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): -

Field Measures: Temp (°C) - Dissolved Oxygen (mg/l) - pH (S.U.) - Conductivity (umhos/cm) -

Is the sampling reach representative of the stream (Y/N) N If not, explain: N/A

Additional comments/description of pollution impacts: N/A

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): —

Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): —

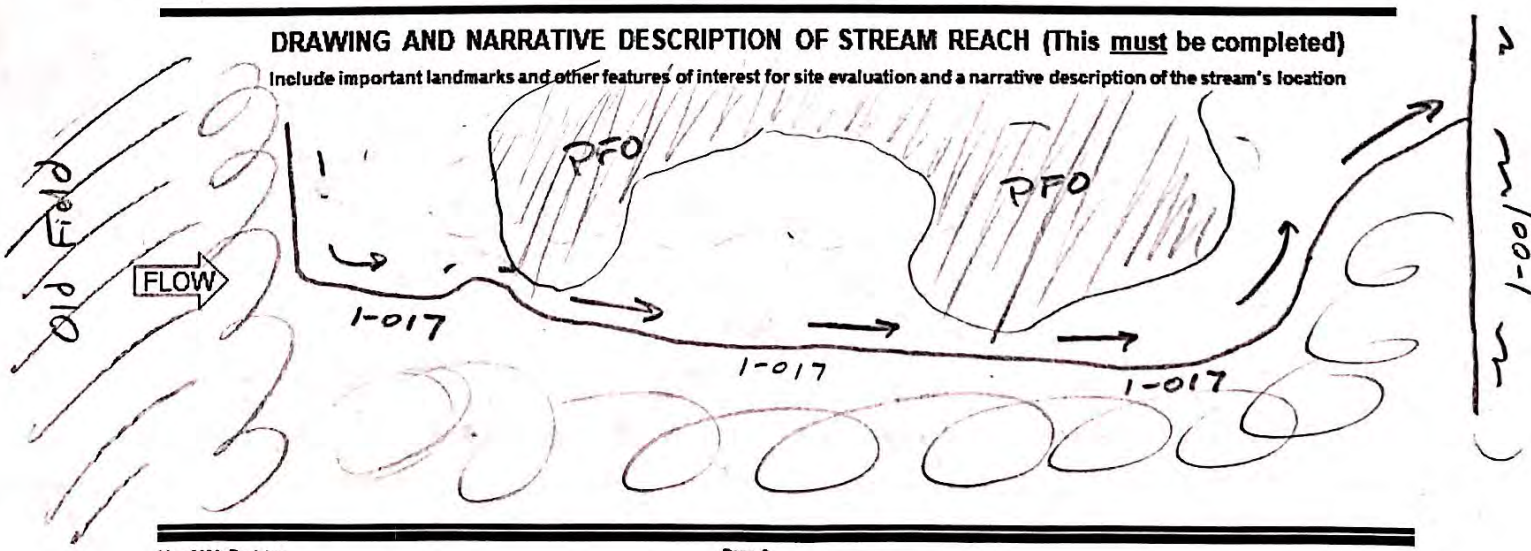
Salamanders Observed? (Y/N) N Species observed (if known): —

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): —

Comments Regarding Biology: N/A

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Intermittent Stream 1-015

Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3) 44

SITE NAME/LOCATION 1784 Chipmunk Solar

SITE NUMBER 1-015 RIVER BASIN Scioto River RIVER CODE — DRAINAGE AREA (mi²) <0.1

LENGTH OF STREAM REACH (ft) 200 ft LAT 39.592716 LONG -83.124451 RIVER MILE —

DATE 8/31/21 SCORER E. Wilson COMMENTS Stream located between perennial stream & eddy

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: ☒ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type present). Check *ONLY* two predominant substrate *TYPE* boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B

TYPE		PERCENT	TYPE		PERCENT
☐	BLDR SLABS [16 pts]		☐	SILT [3 pt]	
☐	BOULDER (>256 mm) [16 pts]		☐	LEAF PACK/WOODY DEBRIS [3 pts]	10
☐	BEDROCK [16 pts]		☐	FINE DETRITUS [3 pts]	
☐	COBBLE (65-256 mm) [12 pts]	5	☐	CLAY or HARDPAN [0 pt]	
☒	GRAVEL (2-64 mm) [9 pts]	40	☐	MUCK [0 pts]	
☒	SAND (<2 mm) [6 pts]	45	☐	ARTIFICIAL [3 pts]	

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 5 (A) 15

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:

(B) 4

TOTAL NUMBER OF SUBSTRATE TYPES:

HHEI Metric Points — Substrate Max = 40: 19 — A + B

2. Maximum Pool Depth (*Measure the maximum pool depth within the 61 meter (200 feet)* evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

- ☐ > 30 centimeters [20 pts]
- ☐ > 22.5 - 30 cm [30 pts]
- ☐ > 10 - 22.5 cm [25 pts]
- ☐ 5 cm - 10 cm [15 pts]
- ☒ < 5 cm [5pts]
- ☐ NO WATER OR MOIST CHANNEL [0pts]

COMMENTS N/A

MAXIMUM POOL DEPTH (centimeters): 4.9

Pool Depth Max = 30: 5

3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check *ONLY* one box):

- ☐ > 4.0 meters (> 13') [30 pts]
- ☐ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]
- ☒ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]
- ☐ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
- ☐ ≤ 1.0 m (≤ 3' 3") [5 pts]

COMMENTS N/A

AVERAGE BANKFULL WIDTH (meters): 1.5

Bankfull Width Max=30: 20

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*

RIPARIAN WIDTH (Per Bank) L	R		FLOODPLAIN QUALITY (Most Predominant per Bank) L	R		L	R	
☒	☒	Wide >10m	☒	☒	Mature Forest, Wetland	☐	☐	Conservation Tillage
☐	☐	Moderate 5-10m	☐	☐	Immature Forest, Shrub or Old Field	☐	☐	Urban or Industrial
☐	☐	Narrow <5m	☐	☐	Residential, Park, New Field	☐	☐	Open Pasture, Row Crop
☐	☐	None	☐	☐	Fenced Pasture	☐	☐	Mining or Construction

COMMENTS N/A

FLOW REGIME (*At Time of Evaluation*) (Check *ONLY* one box):

- ☐ Stream Flowing
- ☐ Subsurface flow with isolated pools (interstitial)
- ☐ Moist Channel, isolated pools, no flow (intermittent)
- ☒ Dry channel, no water (ephemeral)

COMMENTS N/A

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

☒ None	☐ 1.0	☐ 2.0	☐ 3.0
☐ 0.5	☐ 1.5	☐ 2.5	☐ >3

STREAM GRADIENT ESTIMATE

☒ Flat (0.5 ft/100 ft) ☐ Flat to Moderate ☐ Moderate (2 ft/100 ft) ☐ Moderate to Severe ☐ Severe (10 ft/100 ft)

Intermittent Stream 1-015

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? ☐Yes ☒No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

☐ WWH Name: _____ Distance from Evaluated Stream _____

☐ CWH Name: _____ Distance from Evaluated Stream _____

☒ EWH Name: Deer Creek Distance from Evaluated Stream 0.0

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Williamsport NRCS Soil Map Page: - NRCS Soil Map Stream Order: -

County: Pickaway Township/City: Deer Creek / Williamsport

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: - Quantity: -

Photo-documentation Notes: Upstream, Downstream + Substrate

Elevated Turbidity? (Y/N): N Canopy (% open): -

Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): -

Field Measures: Temp (°C) - Dissolved Oxygen (mg/l) - pH (S.U.) - Conductivity (umhos/cm) -

Is the sampling reach representative of the stream (Y/N) N If not, explain: N/A

Additional comments/description of pollution impacts: N/A

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): N/A

Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): N/A

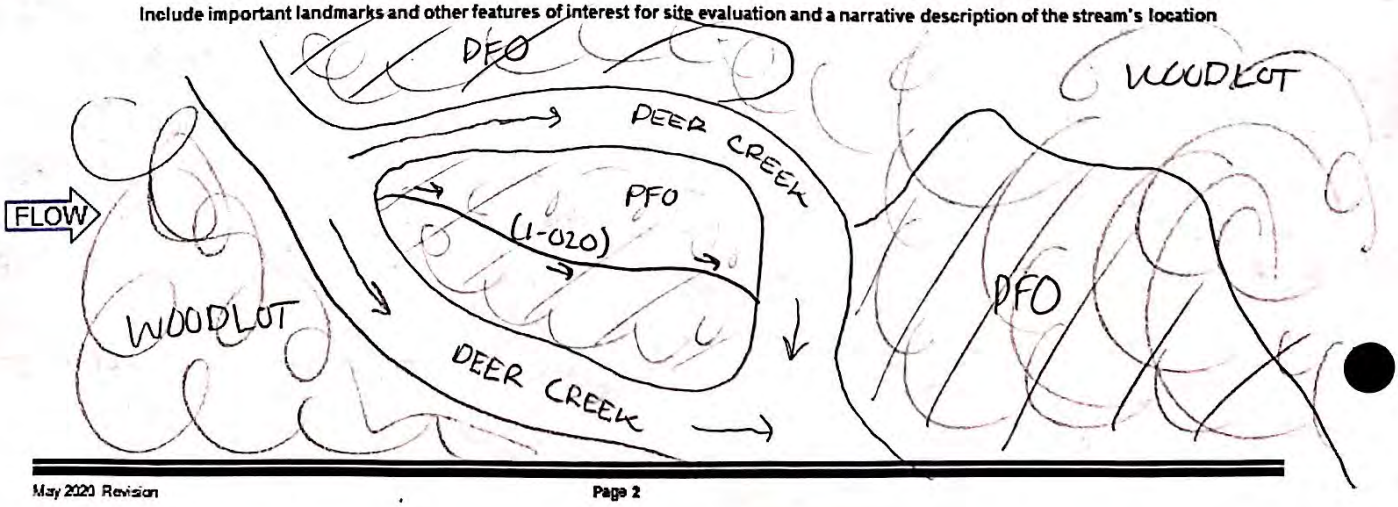
Salamanders Observed? (Y/N) N Species observed (if known): N/A

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): N/A

Comments Regarding Biology: N/A

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Ephemeral Stream 1-016

Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3) 11

SITE NAME/LOCATION 1784 Chipmunk Solar

SITE NUMBER 1-016 RIVER BASIN Scioto River RIVER CODE — DRAINAGE AREA (mi²) 0.05

LENGTH OF STREAM REACH (ft) 200 LAT 39.1022255 LONG -83.1278857 RIVER MILE —

DATE 8/30/21 SCORER E. Wilson COMMENTS N/A

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: ☐ NONE / NATURAL CHANNEL ☐ RECOVERED ☒ RECOVERING ☐ RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type present). Check *ONLY* two predominant substrate *TYPE* boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B

TYPE		PERCENT	TYPE		PERCENT
☐	BLDR SLABS [16 pts]		☐	SILT [3 pt]	5
☐	BOULDER (>256 mm) [16 pts]		☒	LEAF PACK/WOODY DEBRIS [3 pts]	25
☐	BEDROCK [16 pts]		☐	FINE DETRITUS [3 pts]	
☐	COBBLE (65-256 mm) [12 pts]		☒	CLAY or HARDPAN [0 pt]	70
☐	GRAVEL (2-64 mm) [9 pts]		☐	MUCK [0 pts]	
☐	SAND (<2 mm) [6 pts]		☐	ARTIFICIAL [3 pts]	

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 0 (A)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3 TOTAL NUMBER OF SUBSTRATE TYPES: (B) 3

HHEI Metric Points Substrate Max = 40: 6 A + B

2. Maximum Pool Depth (*Measure the maximum pool depth within the 61 meter (200 feet)* evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

- ☐ > 30 centimeters [20 pts]
- ☐ > 22.5 - 30 cm [30 pts]
- ☐ > 10 - 22.5 cm [25 pts]
- ☐ 5 cm - 10 cm [15 pts]
- ☐ < 5 cm [5pts]
- ☒ NO WATER OR MOIST CHANNEL [0pts]

COMMENTS N/A MAXIMUM POOL DEPTH (centimeters): 0

Pool Depth Max = 30: 0

3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check *ONLY* one box):

- ☐ > 4.0 meters (> 13') [30 pts]
- ☐ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]
- ☐ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]
- ☐ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
- ☒ ≤ 1.0 m (≤ 3' 3") [5 pts]

COMMENTS N/A AVERAGE BANKFULL WIDTH (meters) .10

Bankfull Width Max=30: 5

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream *

RIPARIAN WIDTH (Per Bank) L	R	FLOODPLAIN QUALITY (Most Predominant per Bank) L	R	L	R
☒	☒ Wide >10m	☒	☒ Mature Forest, Wetland	☐	☐ Conservation Tillage
☐	☐ Moderate 5-10m	☐	☐ Immature Forest, Shrub or Old Field	☐	☐ Urban or Industrial
☐	☐ Narrow <5m	☐	☐ Residential, Park, New Field	☐	☐ Open Pasture, Row Crop
☐	☐ None	☐	☐ Fenced Pasture	☐	☐ Mining or Construction

COMMENTS N/A

FLOW REGIME (*At Time of Evaluation*) (Check *ONLY* one box):

- ☐ Stream Flowing
- ☐ Subsurface flow with isolated pools (interstitial)
- ☐ Moist Channel, isolated pools, no flow (intermittent)
- ☒ Dry channel, no water (ephemeral)

COMMENTS N/A

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

☒ None	☐ 1.0	☐ 2.0	☐ 3.0
☐ 0.5	☐ 1.5	☐ 2.5	☐ >3

STREAM GRADIENT ESTIMATE

☒ Flat (0.5 ft/100 ft) ☐ Flat to Moderate ☐ Moderate (2 ft/100 ft) ☐ Moderate to Severe ☐ Severe (10 ft/100 ft)

Ephemeral Stream 1-016

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? ☐ Yes ☒ No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

☒ WWH Name: Dry Run Distance from Evaluated Stream 0.1 mi

☐ CWH Name: _____ Distance from Evaluated Stream _____

☐ EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: Clarksburg NRCS Soil Map Page: - NRCS Soil Map Stream Order: -

County: Pickaway Township/City: Monroe / Williamsport

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: - Quantity: -

Photo-documentation Notes: Upstream, Downstream + substrate

Elevated Turbidity? (Y/N): N Canopy (% open): -

Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): -

Field Measures: Temp (°C) - Dissolved Oxygen (mg/l) - pH (S.U.) - Conductivity (umhos/cm) -

Is the sampling reach representative of the stream (Y/N) N If not, explain: N/A

Additional comments/description of pollution impacts: N/A

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): N/A

Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): N/A

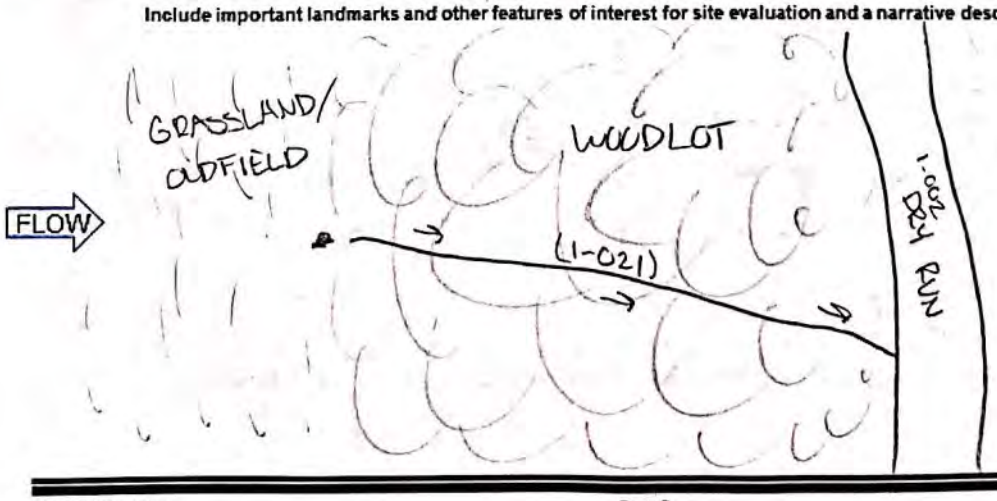
Salamanders Observed? (Y/N) N Species observed (if known): N/A

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): N/A

Comments Regarding Biology: N/A

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Stream H1

Ohio EPA Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : 72

SITE NAME/LOCATION Chipmunk Solar / Stream H1

SITE NUMBER EVD033 RIVER BASIN Dry Run DRAINAGE AREA (mi²) 0.9

LENGTH OF STREAM REACH (ft) 200 LAT. 39.639752 LONG. -83.137019 RIVER CODE N/A RIVER MILE N/A

DATE 9/28/21 SCORER HH TJR COMMENTS Historic farming / channelization / PH1

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: ☐ NONE / NATURAL CHANNEL ☐ RECOVERED ☑ RECOVERING ☐ RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type of substrate present. Check *ONLY* two predominant substrate *TYPE* boxes (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.

TYPE		PERCENT	TYPE		PERCENT
☐☐	BLDR SLABS [16 pts]		☐☐	SILT [3 pt]	15
☐☐	BOULDER (>256 mm) [16 pts]		☐☐	LEAF PACK/WOODY DEBRIS [3 pts]	
☐☑	BEDROCK [16 pt]		☐☐	FINE DETRITUS [3 pts]	
☑☐	COBBLE (65-256 mm) [12 pts]	35	☐☐	CLAY or HARDPAN [0 pt]	
☐☑	GRAVEL (2-64 mm) [9 pts]	30	☐☐	MUCK [0 pts]	
☐☐	SAND (<2 mm) [6 pts]	20	☐☐	ARTIFICIAL [3 pts]	

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 35% (A) 18 (B) 4

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES:

HHEI Metric Points

Substrate Max = 40: 22

A + B

2. Maximum Pool Depth ***(Measure the maximum pool depth within the 61 meter (200 ft)*** evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

- ☐ > 30 centimeters [20 pts]
- ☑ > 22.5 - 30 cm [30 pts]
- ☐ > 10 - 22.5 cm [25 pts]
- ☐ > 5 cm - 10 cm [15 pts]
- ☐ < 5 cm [5 pts]
- ☐ NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS MAXIMUM POOL DEPTH (centimeters): 25

Pool Depth Max = 30: 30

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check *ONLY* one box):

- ☐ > 4.0 meters (> 13') [30 pts]
- ☐ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]
- ☑ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]
- ☐ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
- ☐ ≤ 1.0 m (≤ 3' 3") [5 pts]

COMMENTS AVERAGE BANKFULL WIDTH (meters): 2

Bankfull Width Max=30: 20

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH L	RIPARIAN WIDTH R	(Per Bank)	FLOODPLAIN QUALITY L	FLOODPLAIN QUALITY R	(Most Predominant per Bank)	L	R	
☐	☐	Wide >10m	☐	☐	Mature Forest, Wetland	☐	☐	Conservation Tillage
☑	☐	Moderate 5-10m	☑	☑	Immature Forest, Shrub or Old Field	☐	☐	Urban or Industrial
☐	☐	Narrow <5m	☐	☐	Residential, Park, New Field	☐	☐	Open Pasture, Row Crop
☐	☐	None	☐	☐	Fenced Pasture	☐	☐	Mining or Construction

COMMENTS

FLOW REGIME *(At Time of Evaluation)* (Check *ONLY* one box):

- ☑ Stream Flowing
- ☐ Subsurface flow with isolated pools (Interstitial)
- ☐ Moist Channel, isolated pools, no flow (Intermittent)
- ☐ Dry channel, no water (Ephemeral)

COMMENTS Perennial

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

- ☐ None
- ☐ 0.5
- ☐ 1.0
- ☐ 1.5
- ☑ 2.0
- ☐ 2.5
- ☐ 3.0
- ☐ >3

STREAM GRADIENT ESTIMATE

- ☐ Flat (0.5 ft/100 ft)
- ☑ Flat to Moderate
- ☐ Moderate (2 ft/100 ft)
- ☐ Moderate to Severe
- ☐ Severe (10 ft/100 ft)

June 20, 2008 Revision

Stream H1

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - ☐ Yes ☑ No QHEI Score N/A (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USE(S)

☑ WWH Name: Dry Run Distance from Evaluated Stream 0.4 mile

☐ CWH Name: _____ Distance from Evaluated Stream _____

☐ EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: N/A NRCS Soil Map Page: N/A NRCS Soil Map Stream Order N/A

County: Pickaway Township / City: Williamsport

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 9/18/21 Quantity: 0.05in

Photograph Information: _____

Elevated Turbidity? (Y/N): N Canopy (% open): 20%

Were samples collected for water chemistry? (Y/N): Y (Note lab sample no. or Id. and attach results) Lab Number: N/A

Field Measures: Temp (°C) 17.9 Dissolved Oxygen (mg/l) N/A pH (S.U.) 8.5 Conductivity (µmhos/cm) N/A

Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

Additional comments/description of pollution impacts: _____

BIOTIC EVALUATION

Performed? (Y/N): Y (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

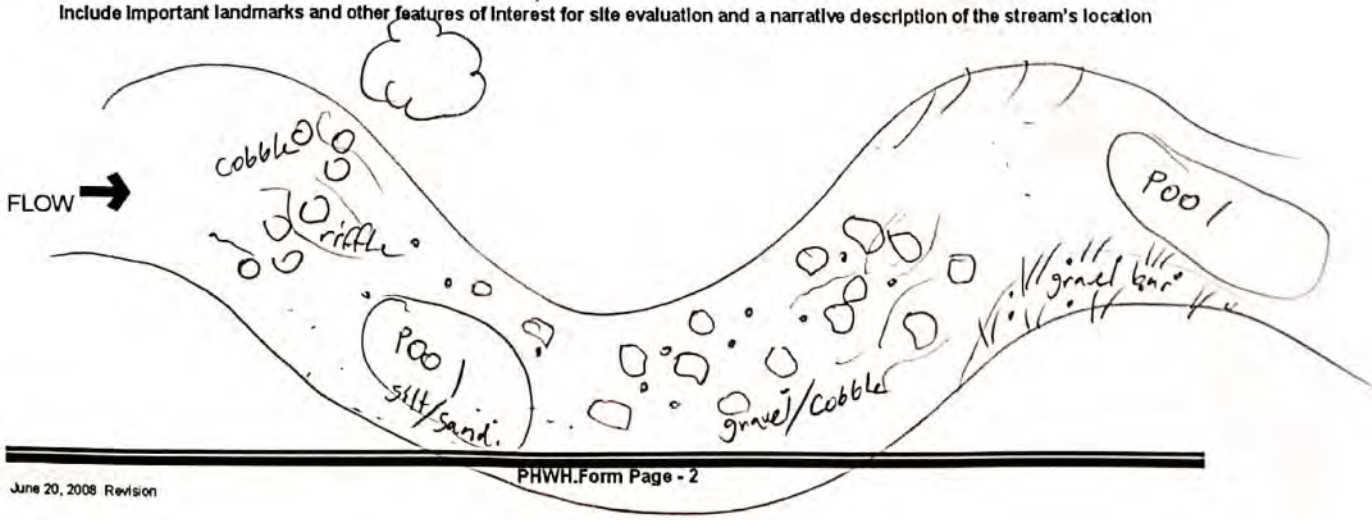
Fish Observed? (Y/N) Y Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N

Frogs or Tadpoles Observed? (Y/N) Y Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Stream H2

OhioEPA Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : 41

SITE NAME/LOCATION Chipmunk Solar / Stream H2

SITE NUMBER EVD033 RIVER BASIN Yellow bud DRAINAGE AREA (mi²) 1.19 — Even though >1 sq mile, stream is too small & disturbed for QHEI

LENGTH OF STREAM REACH (ft) 200 LAT. 39.623181 LONG. -83.100336 RIVER CODE N/A RIVER MILE N/A

DATE 9/28/21 SCORER HH + IR COMMENTS farming / channelization / tile

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: ☐ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☑ RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type of substrate present. Check *ONLY* two predominant substrate *TYPE* boxes (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.

TYPE		PERCENT	TYPE		PERCENT
☐	BLDR SLABS [16 pts]		☑	SILT [3 pt]	80
☐	BOULDER (>256 mm) [16 pts]		☐	LEAF PACK/WOODY DEBRIS [3 pts]	
☐	BEDROCK [16 pt]		☐	FINE DETRITUS [3 pts]	
☐	COBBLE (65-256 mm) [12 pts]		☐	CLAY or HARDPAN [0 pt]	
☐	GRAVEL (2-64 mm) [9 pts]		☐	MUCK [0 pts]	
☑	SAND (<2 mm) [6 pts]	20	☐	ARTIFICIAL [3 pts]	

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 0% (A) 9

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:

(B) 2 TOTAL NUMBER OF SUBSTRATE TYPES:

HHEI Metric Points

Substrate Max = 40: 11

A + B

2. Maximum Pool Depth ***(Measure the maximum pool depth within the 61 meter (200 ft)*** evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

- ☐ > 30 centimeters [20 pts]
- ☐ > 22.5 - 30 cm [30 pts]
- ☑ > 10 - 22.5 cm [25 pts]
- ☐ > 5 cm - 10 cm [15 pts]
- ☐ < 5 cm [5 pts]
- ☐ NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS MAXIMUM POOL DEPTH (centimeters): 13

Pool Depth Max = 30: 25

3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check *ONLY* one box):

- ☐ > 4.0 meters (> 13') [30 pts]
- ☐ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]
- ☐ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]
- ☐ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
- ☑ ≤ 1.0 m (≤ 3' 3") [5 pts]

COMMENTS AVERAGE BANKFULL WIDTH (meters): 1

Bankfull Width Max=30: 5

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH (Per Bank) L	R	FLOODPLAIN QUALITY (Most Predominant per Bank) L	R	L	R
☐	☐ Wide >10m	☐	☐ Mature Forest, Wetland	☐	☐ Conservation Tillage
☐	☐ Moderate 5-10m	☐	☐ Immature Forest, Shrub or Old Field	☐	☐ Urban or Industrial
☐	☐ Narrow <5m	☐	☐ Residential, Park, New Field	☑	☑ Open Pasture, Row Crop
☑	☑ None	☐	☐ Fenced Pasture	☐	☐ Mining or Construction

COMMENTS

FLOW REGIME *(At Time of Evaluation)* (Check *ONLY* one box):

- ☑ Stream Flowing
- ☐ Subsurface flow with isolated pools (Interstitial)
- ☐ Moist Channel, isolated pools, no flow (Intermittent)
- ☐ Dry channel, no water (Ephemeral)

COMMENTS Intermittent

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check *ONLY* one box):

☐ None	☐ 1.0	☐ 2.0	☐ 3.0
☑ 0.5	☐ 1.5	☐ 2.5	☐ >3

STREAM GRADIENT ESTIMATE

☐ Flat (0.5 ft/100 ft) ☑ Flat to Moderate ☐ Moderate (2 ft/100 ft) ☐ Moderate to Severe ☐ Severe (10 ft/100 ft)

Stream H2

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? - ☐ Yes ☑ No QHEI Score N/A (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USE(S)

☐ WWH Name: _____ Distance from Evaluated Stream _____

☐ CWH Name: _____ Distance from Evaluated Stream _____

☑ EWH Name: Yellowbud Creek Distance from Evaluated Stream 1.3 mile

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION

USGS Quadrangle Name: N/A NRCS Soil Map Page: N/A NRCS Soil Map Stream Order N/A

County: Pickaway Township / City: Williamsport

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 9/18/21 Quantity: 0.05in

Photograph Information: _____

Elevated Turbidity? (Y/N): Y Canopy (% open): 100%

Were samples collected for water chemistry? (Y/N): Y (Note lab sample no. or id. and attach results) Lab Number: N/A

Field Measures: Temp (°C) 17.5 Dissolved Oxygen (mg/l) N/A pH (S.U.) 8.6 Conductivity (µmhos/cm) N/A

Is the sampling reach representative of the stream (Y/N) Y If not, please explain: _____

Additional comments/description of pollution impacts: _____

BIOTIC EVALUATION

Performed? (Y/N): Y (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

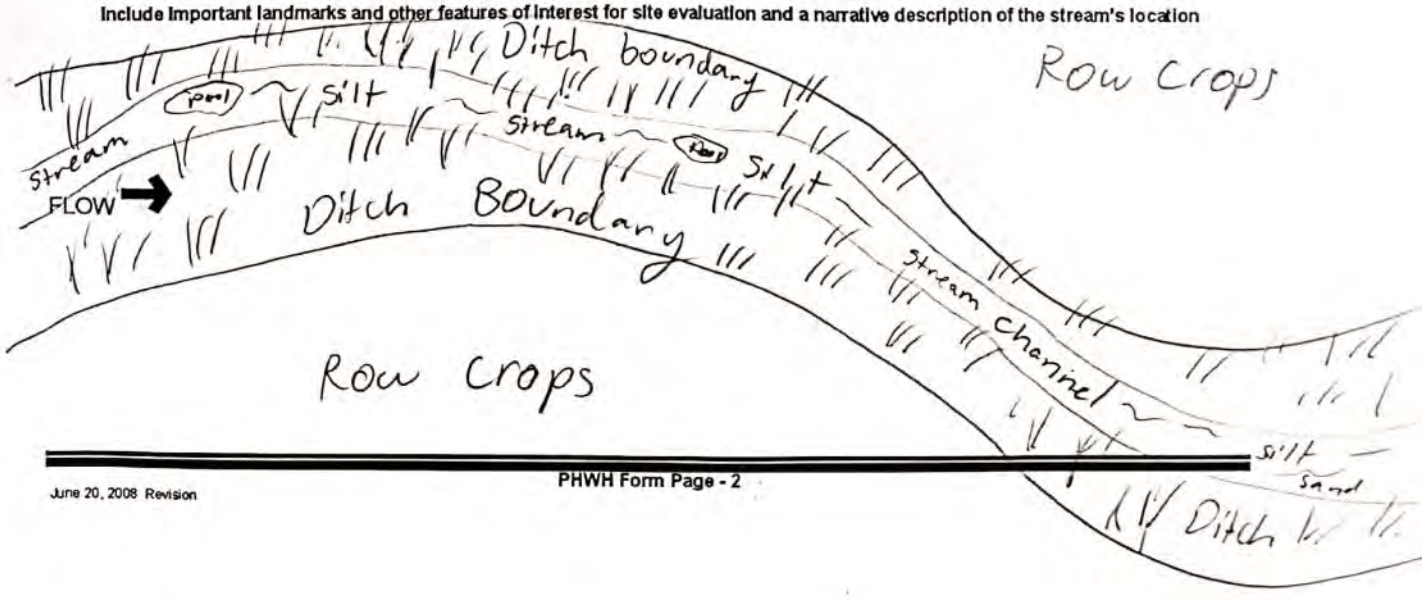
Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N

Frogs or Tadpoles Observed? (Y/N) Y Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed):

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Yellowbud Creek

Field Methods for Evaluating Primary Headwater Streams in Ohio
Ohio EPA, Division of Surface Water

Version 4.0
October 2018

Primary Headwater Habitat Field Evaluation Form

HHEI Score (sum of metrics 1+2+3) 50

SITE NAME/LOCATION Yellow Bud Creek
SITE NUMBER EVD033 RIVER BASIN 05060001 RIVER CODE N/A DRAINAGE AREA (mF) 0.47
LENGTH OF STREAM REACH (ft) 200 LAT 39.637378 LONG -83.089814 RIVER MILE ~13.0
DATE 11/3/22 SCORER K. Ismani COMMENTS Channelized

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

STREAM CHANNEL MODIFICATIONS: ☐ NONE / NATURAL CHANNEL ☐ RECOVERED ☑ RECOVERING ☐ RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type present). Check *ONLY* two predominant substrate *TYPE* boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B

TYPE		PERCENT	TYPE		PERCENT
☐ ☐	BLDR SLABS [16 pts]		☑ ☐	SILT [3 pt]	5%
☐ ☐	BOULDER (>256 mm) [16 pts]		☐ ☐	LEAF PACK/WOODY DEBRIS [3 pts]	
☐ ☐	BEDROCK [16 pts]		☐ ☐	FINE DETRITUS [3 pts]	
☐ ☐	COBBLE (65-256 mm) [12 pts]		☐ ☐	CLAY or HARDPAN [0 pt]	
☐ ☑	GRAVEL (2-64 mm) [9 pts]	35	☐ ☐	MUCK [0 pts]	
☐ ☐	SAND (<2 mm) [6 pts]	25	☐ ☐	ARTIFICIAL [3 pts]	

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 0 (A)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 12 TOTAL NUMBER OF SUBSTRATE TYPES: (B) 3

HHEI Metric Points
Substrate Max = 40
15
A + B

2. Maximum Pool Depth (*Measure the maximum pool depth within the 61 meter (200 feet)* evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

☐ > 30 centimeters [20 pts]
☐ > 22.5 - 30 cm [30 pts]
☐ > 10 - 22.5 cm [25 pts]
☑ 5 cm - 10 cm [15 pts]
☐ < 5 cm [5pts]
☐ NO WATER OR MOIST CHANNEL [0pts]

COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): 9

Pool Depth Max = 30
15

3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check *ONLY* one box):

☐ > 4.0 meters (> 13') [30 pts]
☐ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]
☑ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]
☐ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
☐ ≤ 1.0 m (≤ 3' 3") [5 pts]

COMMENTS _____ AVERAGE BANKFULL WIDTH (meters) 9'5"

Bankfull Width Max=30
20

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream★

RIPARIAN WIDTH (Per Bank) L	R		FLOODPLAIN QUALITY (Most Predominant per Bank) L	R		L	R	
☐	☐	Wide >10m	☐	☐	Mature Forest, Wetland	☐	☐	Conservation Tillage
☐	☐	Moderate 5-10m	☐	☐	Immature Forest, Shrub or Old Field	☐	☐	Urban or Industrial
☑	☑	Narrow <5m	☑	☐	Residential, Park, New Field	☑	☑	Open Pasture, Row Crop
☐	☐	None	☐	☐	Fenced Pasture	☐	☐	Mining or Construction

COMMENTS _____

FLOW REGIME (*At Time of Evaluation*) (Check *ONLY* one box):

☑ Stream Flowing
☐ Subsurface flow with isolated pools (interstitial)
☐ Moist Channel, isolated pools, no flow (intermittent)
☐ Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

☐ None ☐ 0.5 ☑ 1.0 ☐ 1.5 ☐ 2.0 ☐ 2.5 ☐ 3.0 ☐ >3

STREAM GRADIENT ESTIMATE

☐ Flat (0.5 ft/100 ft) ☑ Flat to Moderate ☐ Moderate (2 ft/100 ft) ☐ Moderate to Severe ☐ Severe (10 ft/100 ft)

Yellowbud Creek

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

QHEI PERFORMED? ☐Yes ☑No QHEI Score N/A (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S):

☑ WWH Name: Yellowbud Creek Distance from Evaluated Stream 0.00

☐ CWH Name: _____ Distance from Evaluated Stream _____

☐ EWH Name: _____ Distance from Evaluated Stream _____

MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.

USGS Quadrangle Name: _____ NRCS Soil Map Page: N/A NRCS Soil Map Stream Order: N/A

County: Pickaway County Township/City: _____

MISCELLANEOUS

Base Flow Conditions? (Y/N) Pick Date of last precipitation: 1/1/2022 Quantity: N/A

Photo-documentation Notes: _____

Elevated Turbidity?(Y/N): Pick Canopy (% open): 90

Were samples collected for water chemistry? (Y/N): Y Lab Sample # or ID (attach results): N/A

Field Measures: Temp (°C) 5.8 Dissolved Oxygen (mg/l) _____ pH (S.U.) 8.6 Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Y If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) 0 N Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) 0 N Species observed (if known): _____

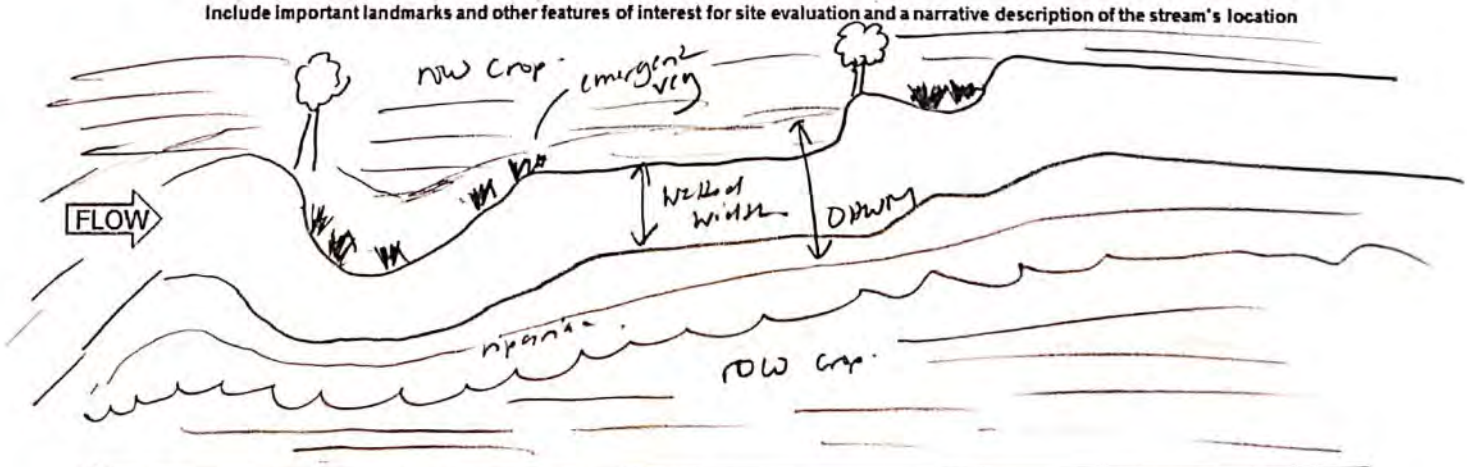
Salamanders Observed? (Y/N) 0 N Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) 0 Y Species observed (if known): scuds, snails

Comments Regarding Biology: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

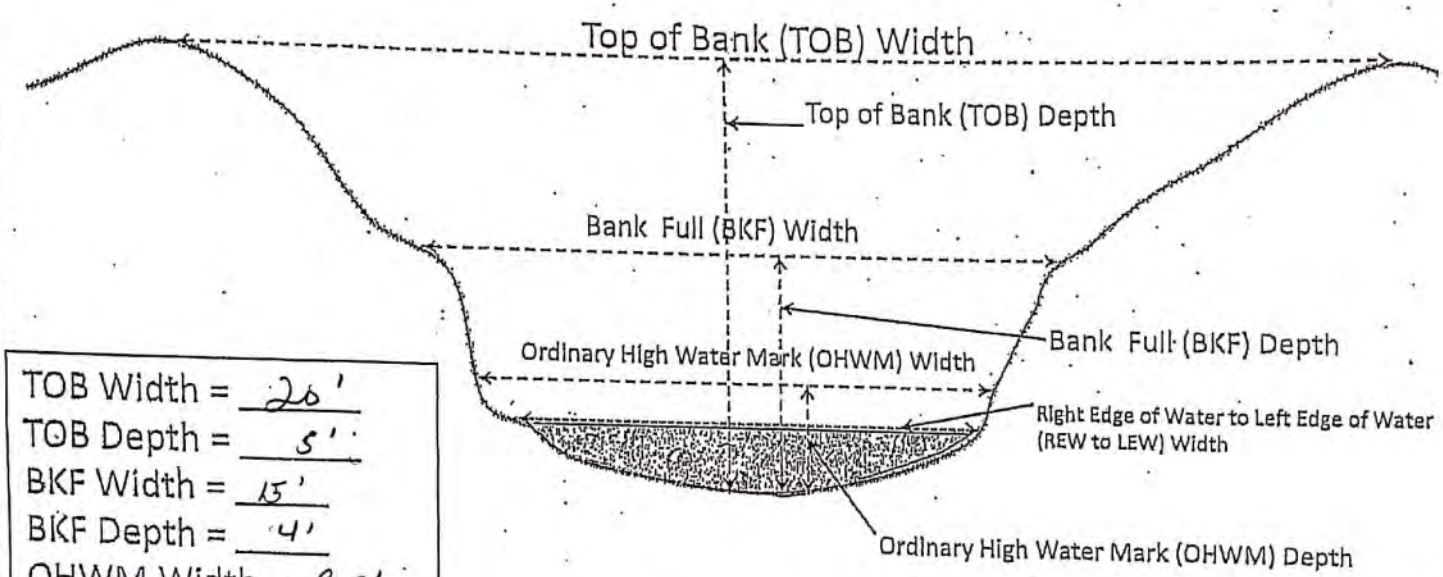
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Stream Yellow Bud Creek Cross Section Dimensions

Stream Name: Yellow Bud Creek

Hull Investigator(s): IL Brant Project: EVD033



TOB Width = 20'
TOB Depth = 5'
BKF Width = 15'
BKF Depth = 4'
OHWM Width = 9.5'
OHWM Depth = 3.5'
REW to LEW = 3'

Proposed Crossing Type (circle one)
Open Cut
Slick Bore
HDD Bore