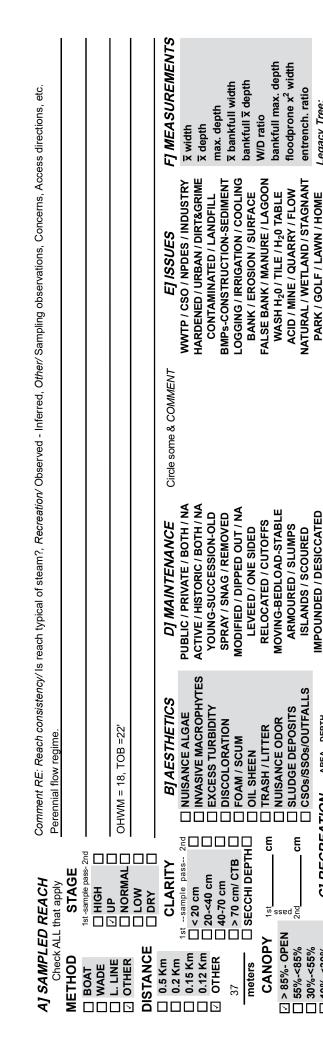
		St	ream PB-12 s-mdt-060718	3-04
ChicEPA	Qualitative Habita and Use Assess	t Evaluation Index ment Field Sheet	QHEI Score: 48	
Stream & Location: Holloway-Kno	x 138kV Transmission Line (Iris	h Creek)	RM:Date:06 07	18
S-MDT-06072018-04		Full Name & Affiliation:	M. Thomayer, T.Qualio-CH2M HILL	
River Code:	_STORET #:	Lat./Long.: 40 401744	18 <u>1</u> <u>051716</u>	verified ocation
1] SUBSTRATE Check ONLY Two sestimate % or note	substrate <i>TYPE BOXES</i> ; every type present	Check C	NE (Or 2 & average)	
BEST TYPES POOL RIFFL			QUALITY	
BLDR /SLABS [10] BOULDER [9]	_ □ □ HARDPAN [4] <u>15</u> _ □ □ DETRITUS [3]	<u>5</u>	HEAVY [-2]	Substrate
COBBLE [8] 20	🗌 🗌 миск [2]	WETLANDS [0]		
□ GRAVEL [7] <u>10</u> <u>40</u> □ J SAND [6] <u>20</u> <u>20</u>	_	<u>15</u>	DEA EXTENSIVE [-2]	5
	(Score natural substrate	es; ignore RIP/RAP [0] -sources) LACUSTURINE [0]	GODEO GODEO GODEO GODEO GODEO GODEO MODERATE [-2] MODERATE [-2] MODERATE [-1] MODERATE [-1] MODERATE [-1] MODERATE [-1] MODERATE [-1]	Maximum
NUMBER OF BEST TYPES:	a or less [0]	SHALE [-1]		20
<i>Comments</i> bricks lining stream bed		COAL FINES [-2]		
21 INSTREAM COVER Indicate pr	esence 0 to 3: 0-Absent; 1-Very	small amounts or if more commo	n of marginal AMOUNT	
quality; 3-Highest quality in moderate of a second seco	Moderate amounts, but not of hig r greater amounts (e.g., very larg	phest quality or in small amounts ge boulders in deep or fast water	of highest large Check ONE (Or 2 & avera	
diaméter log that is stable, well develop <u>1</u> UNDERCUT BANKS [1]	, , ,	or deep, well-defined, functional OXBOWS, BACKWATE		
1 OVERHANGING VEGETATION	[1] <u>1</u> ROOTWADS [1]	AQUATIC MACROPHY	TES [1]	
SHALLOWS (IN SLOW WATER) ROOTMATS [1]	[1] BOULDERS [1]	1 LOGS OR WOODY DEE		.[1]
Comments			Cover Maximum 20	11
3] CHANNEL MORPHOLOGY				
SINUOSITY DEVELOPMEI		N STABILITY		
MODERATE [3] GOOD [5]	RECOVERED [4]	MODERATE [2]		
□ LOW [2]	RECOVERING [3]	✓ LOW [1]	Channel	
Comments			Maximum 20	12
4] BANK EROSION AND RIPA River right looking downstream				
	PARIAN WIDTH E > 50m [4]	FLOOD PLAIN QUALI DREST, SWAMP [3]		F [1]
	DERATE 10-50m [3] 🛛 🛯 🖓 SF	IRUB OR OLD FIELD [2]	U URBAN OR INDUSTRIAL	[0]
□ MODERATE [2] □ NAF ☑ ☑ HEAVY / SEVERE [1] ☑ ☑	ROW 5-10m [2]	ESIDENTIAL, PARK, NEW FIELD ENCED PASTURE [1]	[1] I MINING / CONSTRUCTION Indicate predominant land use(s)	N [0]
	IE [0]	PEN PASTURE, ROWCROP [0]	past 100m riparian. Riparian	
Comments			Maximum 10	
5] POOL / GLIDE AND RIFFLE	/ RUN QUALITY		-	
MAXIMUM DEPTH CH	IANNEL WIDTH	CURRENT VELOCITY	Recreation Potenti	
	CONE (Or 2 & average) IDTH > RIFFLE WIDTH [2]	Check ALL that apply	Primary Contact Secondary Contact	
	IDTH = RIFFLE WIDTH [1] 🛛 🛛	/ERY FAST [1]	[IAL [-1] (circle one and comment on bac	ck)
0.2-<0.4m [1]		NODERATE [1] 🛛 EDDIES [1	Pool /	
□ < 0.2m [0] Comments		Indicate for reach - pools and rit	fles. Current Maximum	5
Indicate for functional riffle of riffle-obligate species:		arge enough to support a Dr 2 & average).	a population	etric=0]
RIFFLE DEPTH RUI	N DEPTH RIFFLE /	RUN SUBSTRATE RIF	LE / RUN EMBEDDEDNESS	
☑ BEST AREAS > 10cm [2] □ MAXIM □ BEST AREAS 5-10cm [1] ☑ MAXIM	/IUM > 50cm [2]	g., Cobble, Boulder) [2] SLE (e.g., Large Gravel) [1]	□ NONE [2] □ LOW [1]	
BEST AREAS < 5cm		(e.g., Fine Gravel, Sand) [0]	MODERATE [0] Riffle /	
[metric=0] Comments				J
6] GRADIENT (25 ft/mi)	VERY LOW - LOW [2-4]	%POOL: 30		
DRAINAGE AREA 🕺 🗹	MODERATE [6-10]		%GLIDE: 20 Gradient Maximum	6
(16.2 mi²)	HIGH - VERY HIGH [10-6]	%RUN: (20)	%RIFFLE: 30 10	



Stream Drawing:

<10%- CLOSED</p>

□ 10%-<30%

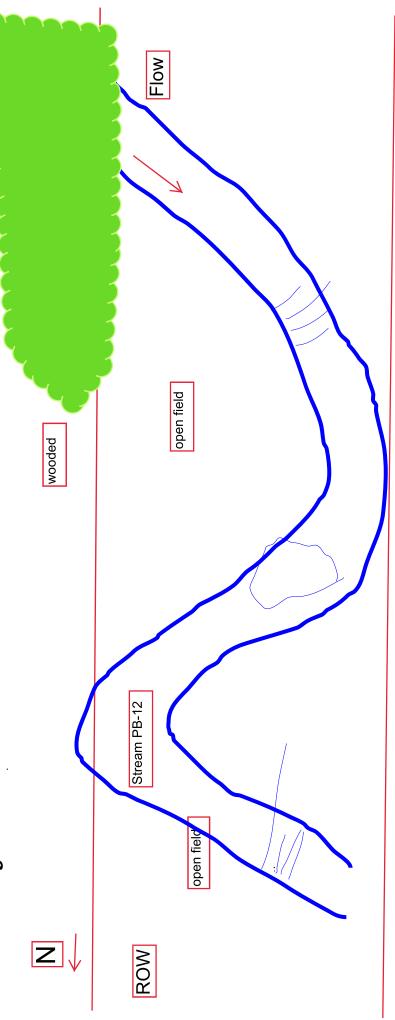
Legacy Tree:

ATMOSPHERE / DATA PAUCITY

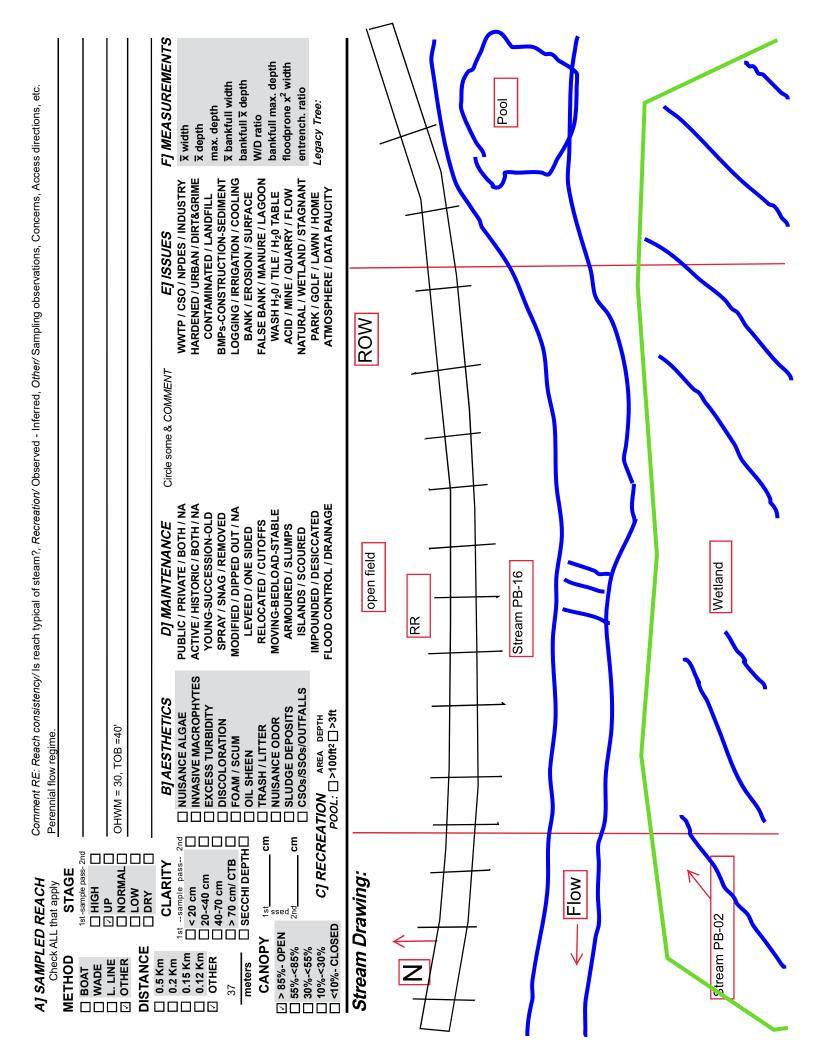
FLOOD CONTROL / DRAINAGE

POOL: 0>100ft2 >3ft AREA DEPTH

CJ RECREATION



OWNERNA Qualitative Habitat Evaluation Index QHEI Score: [4] Strem & Location: Indexeq.Knox 138kV Transmission Line (Conduto Creek) RM:
Scorers Full Name & Affiliation: M. Thomayer, T. Qualic-CH2M HILL River Code:
River Code:
1) SUBSTRATE Check ONLY Two substrate TVPE BOXES: estimate & or note every type present BEST TYPES POOL RIFFLE Check ONE (Or 2 & average) 0 DEDR (SLABS [10] 0 OTHER TYPES POOL RIFFLE ORIGIN 0 DEDR (SLABS [10] 0 0 BAND [2] Substrat 0 COBBLE [8] 5 0 MUCK [2] Substrat 0 Cobeck [7] 40 Sill [2] 5 0 WertLANDS [1] NORMAL [0] Substrat 0 GRAVE [7] 40 Sill [2] 5 0 MUCK [2] Substrat 10 GRAVE [7] 40 Sill [2] 5 0 MODERATE [1] 0 Substrat NUMBER OF BEST TYPES: 14 or more [2] sludge from point-sources) San lags transmit Substrates (protein more [2] sludge from point-sources) Substrat MODERATE [1] 0 0 MODERATE [2] 0 MoDERATE [1] 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0<
BEST TYPES OTHER TYPES ODURIFILE OTHER TYPES OUALITY BUDR SLABS [10] OTHER TYPES DOL RIFFLE ILMESTONE [1] ILMESTONE [1] HEAVY [2] BOULDER [9] ODERATE [1] DETRITY [2] ILMESTONE [0] ILMESTONE [0] ILMESTONE [1] ILMESTONE [0] ILMESTENDESTONE [0] ILMESTENDESTONE [0] ILMESTENDESTONE [0] ILMESTENDESTONE [
BEST TYPES POOL RIFFLE ORIGIN GUALITY BUDR /SLAPES OF HER TYPES OF HARDPAN [4] 15 5 HARDPAN [2] SUBSTRAT HEAVY [-2] MODERATE [-1] NORMAL [0] Substrat BUDR /SLAPES 0 SILT [2] 42 20 HARDPAN [0] SILT [1LLS [1] NORMAL [0] Substrat Substrat <t< td=""></t<>
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 in moderate or greater amounts, but not of highest quality or in small amounts of highest quality in moderate or greater amounts, but not of highest quality or in small amounts of highest quality in moderate or greater amounts, but not of highest quality or in small amounts of highest quality in moderate or greater amounts, but not of highest quality or in small amounts of highest quality in moderate or greater amounts, but not of highest quality or in small amounts of highest quality in moderate or greater amounts, but not of highest quality or in small amounts of highest quality or is small amounts of highest quality orestress (1)
Comments Cover Maximum 20 11 3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average) SINUOSITY DEVELOPMENT CHANNELIZATION STABILITY HIGH [4] EXCELLENT [7] NONE [6] HIGH [3] MODERATE [2] LOW [2] FAIR [3] RECOVERED [4] MODERATE [2] NONE [1] POOR [1] RECOVERING [3] LOW [1] Channel Maximum 20 12 All BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank & average) Maximum 20 12 River right looking downstream RIPARIAN WIDTH FLOOD PLAIN QUALITY Conservation tillage [1] MODERATE [2] MODERATE 10-50m [3] SHRUB OR OLD FIELD [2] URBAN OR INDUSTRIAL [0] MODERATE [2] MODERATE 10-50m [3] SHRUB OR OLD FIELD [2] URBAN OR INDUSTRIAL [0] MODERATE [2] NARROW 5-10m [2] SHRUB OR OLD FIELD [2] URBAN OR INDUSTRIAL [0] MODERATE [2] NARROW 5-10m [2] GOPEN PASTURE, ROWCROP [0] Indicate predominant land use(s) past 100m riparian. Maximum 10 Comments 9 OPEN PASTURE, ROWCROP [0] STABULATION STABULATION Maximum 10 S] POOL / GLIDE AND RIFFLE / RUN QUALITY STABULATION
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] Channel Maximum 20 NONE [1] POOR [1] RECOVERING [3] Low [1] Low [1] 12 4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank & average) River right looking downstream RIPARIAN WIDTH FLOOD PLAIN QUALITY Reconservation Tillage [1] NONE / LITTLE [3] MODERATE 10-50m [3] SHRUB OR OLD FIELD [2] URBAN OR INDUSTRIAL [0] URBAN OR INDUSTRIAL [0] MODERATE [2] NARROW 5-10m [2] SHRUB OR OLD FIELD [2] URBAN OR INDUSTRIAL [0] Indicate predominant land use(s) past 100m riparian. Riparian Maximum 10 10 2 HEAVY / SEVERE [1] VERY NARROW < 5m [1]
River right looking downstream RIPARIAN WIDTH EROSION WIDE > 50m [4] NONE / LITTLE [3] MODERATE 10-50m [3] MODERATE [2] NARROW 5-10m [2] NARROW 5-10m [2] RESIDENTIAL, PARK, NEW FIELD [1] HEAVY / SEVERE [1] VERY NARROW < 5m [1]
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]
Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average). INO RIFFLE [metric=0] RIFFLE DEPTH RUN DEPTH RIFFLE / RUN SUBSTRATE RIFFLE / RUN EMBEDDEDNESS Imaximum Stable (e.g., Cobble, Boulder) [2] NONE [2] NONE [2] Imaximum MAXIMUM > 50cm [2] STABLE (e.g., Cobble, Boulder) [2] NONE [2] Imaximum MAXIMUM > 50cm [1] MOD. STABLE (e.g., Large Gravel) [1] LOW [1] Imaximum MAXIMUM < 50cm [1]
$\begin{array}{c c c c c c c c c c c c c c c c c c c $



Appendix D OEPA HHEI Datasheets

Stream PB-01	
ChieEPA Primary Headwater Habitat Evaluation Form 28	
HHEI Score (sum of metrics 1, 2, 3) :	_
SITE NAME/LOCATION FirstEnergy Holloway-Knox 138kV Transmission Line Field ID: s-tmq-05242018-03]
SITE NUMBER PB-01 RIVER BASIN 05040001 DRAINAGE AREA (mi²) 0.01	4
LENGTH OF STREAM REACH (ft) 62 LAT. 40.45073 LONG. -81.04962 RIVER CODE RIVER MILE DATE 05/24/18 SCORER TMQ, JF COMMENTS ephemeral flow regime	4
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions	
STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY MODIFICATIONS: stream through ROW	
1. SUBSTRATE (Estimate percent of every type of substrate 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.	El ric
BLDR SLABS [16 pts] 0% 2 SILT [3 pt] 90% Poin	
BOULDER (>256 mm) [16 pts] 0% LEAF PACK/WOODY DEBRIS [3 pts] 0% BEDROCK [16 pt] 0% FINE DETRITUS [3 pts] 0%	
COBBLE (65-256 mm) [12 pts] 5% CLAY or HARDPAN [0 pt] 0%	40 \
GRAVEL (2-64 mm) [9 pts] 5% Image: MUCK [0 pts] 0% SAND (<2 mm) [6 pts]	
Total of Percentages of Food (A) Substrate Percentage (B)	
Bldr Slabs, Boulder, Cobble, Bedrock	1
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth	onth
evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max =	-
> 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] ✓	
> 10 - 22.5 cm [25 pts]	
3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bankf > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Width	
= 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] $ = 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] $ $ = 3.0 m (<=3' 3") [5 pts] $ $ = 3.0 m (<=3' 3") [5 pts]$	
	7
COMMENTS tob: 2 ohwm: 0.5 AVERAGE BANKFULL WIDTH Feet : 2.00 5	
This information <u>must</u> also be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY *** NOTE: River Left (L) and Right (R) as looking downstream *** RIPARIAN WIDTH FLOODPLAIN QUALITY	
L R (Per Bank) L R (Most Predominant per Bank) L R Wide >10m Mature Forest, Wetland Conservation Tillage	
Moderate 5-10m Immature Forest, Shrub or Old	
Field Image: Antice and the second of t	
None Fenced Pasture Mining or Construction	
COMMENTS ROW	
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)	
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)	

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed	<u>d):</u>
QHEI PERFORMED? - Yes 🗸 No QHEI Score (If Yes,	Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name: Dining Fork	Distance from Evaluated Stream 0.29 miles
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERS	SHED AREA. CLEARLY MARK THE SITE LOCATION
JSGS Quadrangle Name: Scio NRCS Soil M	lap Page: NRCS Soil Map Stream Order
County: Carroll Township / City: Pe	srry
MISCELLANEOUS	
Base Flow Conditions? (Y/N):_Y Date of last precipitation:_ 05/22/18	Quantity: 1.18
hotograph Information: _3 photos	
ilevated Turbidity? (Y/N): N Canopy (% open): 95%	
Vere samples collected for water chemistry? (Y/N): (Note lab sample no. or	r id. and attach results) Lab Number:
ield Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U	J.) Conductivity (µmhos/cm)
s the sampling reach representative of the stream (Y/N) If not, please explain):
dditional comments/description of pollution impacts:	
ID number. Include appropriate field data sheets from th Voucher? (Y/N) N Salamanders Observed? (Y/N) Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) Aquatic Macroinverte Comments Regarding Biology:	
DRAWING AND NARRATIVE DESCRIPTION OF STREA	
T-Line ROV Edge	W. M. M.
T-Line C	Cer terline T-Line ROW Edge
PHWH Form Page - 2	
October 24, 2002 Revision	Save as pdf Reset Form

<form><form></form></form>	Stream P	B-02
HEI Score (sum of metrics 1, 2, 3): SITE NAMELOCATION SITE NAMELOCATION FISTE NAMELOCATION SITE NAMELOCATION <td>ChieFPA Primary Headwater Habitat Evaluation Form</td> <td>50</td>	ChieFPA Primary Headwater Habitat Evaluation Form	50
STE NUMBER RIVER BASIN 05040001 DRAINAGE AREA (m/) 0.95 LENOTH OF STREAM REACH (m) 424 LAT. (40.4742 LONG. #1.04774 RIVER CODE RIVER MILE DATE GOORDATE SCORER MDT, TMQ COMMENTS RIVER MILE RIVER MILE NOTE: Complete All tens On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERING RECOVERING RECOVERING RECOVERING Streams" for Instructions STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECOVERING RECOVERING Streams" for Instructions STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECOVERING Recovering Streams" for Instructions SUBSTRATE (Selfing in) GOG GOG GOG BLOK SLABS (16 ps) GOG	HHEI Score (sum of metrics 1, 2, 3) :	00
LENGTH OF STREAM REACH (t) 424 LAT. 40.44742 LONG. B10.0474 RIVER CODE RIVER MUE DATE GORGEN SCORER MDT, TMQ COMMENTS percential flow regime NOTE: Complete All terms On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions STREAM CHANNEL Incomplete All terms On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for No RECOVERY NODE/CATIONS: appears some repeat tem percenteres with RECOVERING RECOVERING RECOVERING RECOVERING RECOVERING RECOVERING Recover a No RECOVERING SUBSTRATE (Estimate percent of every type of substrate present. Check OW.Y bog predominant discharts Present Substrate present (Check OW.Y bog predominant discharts Present Substrate TYPEs Substrate Substrate TYPE Substrate TYPEs Substrate Substrate TYPEs		018-04
DATE 06/06/18 SCORER MDT, TMQ COMMENTS perennial flow regime NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions STEAM CHANNEL NONE / NATURAL CHANNEL RECOVERING RECENT OR NO RECOVERY MODIFICATIONS: goodes activity good substrate present. Chock O/M.Y two predominant substrate TYPE boxes Max of 32, Add total number of significant substrate present. Chock O/M.Y two predominant substrate TYPE boxes Present the mater power with substrate types found (Max of 8). Find metric score is sum of boxes A 8. Multice (Color Is and Partice Max of 8). Find metric score is sum of boxes A 8. Multice (Color Is and Partice Max of 8). Find metric score is sum of boxes A 8. YPE BLOR SLASS (16 pts) 0%).95
<form></form>		
STREAM CHANNEL ONC / NATURAL CHANNEL RECOVERED RECOVERING RECENT ON DRECOVERING SUBSTRATE (Estimate precent of every type of substrate present. Check OWL Yong predominant substrate types found Max (8). Final metric score is sum of boxes A 8. Image: Check OWL Yong predominant substrate types found Max (8). Final metric score is sum of boxes A 8. Image: Check OWL Yong Check OWL Yong Predominant substrate types found Max (8). Final metric score is sum of boxes A 8. Image: Check OWL Yong Predominant substrate types found Max (8). Final metric score is sum of boxes A 8. Image: Check OWL Yong Check OWL Yong Predominant substrate types found Max (8). Final metric score is sum of boxes A 8. Image: Check OWL Yong Predominant Substrate types found Max (8). Final metric score is sum of boxes A 8. Image: Check OWL Yong Depth (Measure the maximum pool depth within the 61 meter (200 H) evaluation reach at the time of evaluation. Avoid plunge pools torn road culvers or storm weter pres: Other X Yong Check OWL Yone box): Image: X Yong Check OWL		
MODIFICATIONS: beparse some impact them prior powerfulse wet: 1. SUESTRATE (Estimate percent of every type of substrate present. Check. ONLY type predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types floand. (Max of 8). Final metric score is sum of boxes A & B. YPE BLDR SLABS (16 ps] BLDR SLABS (16 ps] BCDRCOK (16 pt] BCDR SLABS (16 ps] BCDRCOK (16 pt] BCDRCOK (16 pt] BC	•	
(Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxs A & B. Final metric score is sum of boxs A & B.		OVERY
(Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. Final metric score is sum of boxes A & B.	1 SUBSTRATE (Estimate percent of every type of substrate present. Check ON/ Y two predominant substrate TVPE hoves	
BLDR SLABS (16 pts) 00% 0% 00% 0% <td></td> <td></td>		
BOULDER (>256 mm) [15 pts] 0%		Points
Image: Cobstruct (12:pts) 0% 0% 0% 0% Image: Cobstruct (2:e4 mm) (9 pts) 0% 0% 0% 0% Image: Cobstruct (2:e4 mm) (9 pts) 0% 0% 0% 0% Image: Cobstruct (2:e4 mm) (9 pts) 0% 0% 0% 0% Image: Cobstruct (2:e4 mm) (9 pts) 0% 0% 0% 0% Image: Cobstruct (2:e4 mm) (9 pts) 0% 0% 0% 0% Image: Cobstruct (2:e4 mm) (9 pts) 0% 0% 0% 0% Image: Cobstruct (2:e4 mm) (9 pts) 0% 0% 0% 0% Image: Cobstruct (2:e4 mm) (9 pts) 0% 0% 0% 0% Image: Cobstruct (2:e4 mm) (9 pts) 0% 0% 0% 0% Image: Cobstruct (2:e4 mm) (9 pts) 0% 0% 0% 0% Image: Cobstruct (2:e4 mm) (9 pts) 0% 0% 0% 0% Image: Cobstruct (2:e4 mm) (2:e5 mm) (2:e6		Substrate
Image: San Dick Contemporation of parts 20% Image: San Dick Contemporation 00% 0% 0% Bide Stabs, Boulder, Cobble, Bedrock 0.00% (A) Image: San Dick Contemporation 00% (B) Score of two Most Precominate Substrate types: 12 Image: San Dick Contemporation (Check ONL Yone box): > 5 cm - 10 cm [15 pts] > 5 cm - 10 cm [15 pts] 20 > 30 centimeters [20 pts] Score of 7 - 13] Some of 20 pts] Image: Score of 7 - 13] 21 > 4.0 meters (13) [30 pts] Store of 7 - 13] Store (12 pts] Store (12 pts] 20 Some - 10 on (15 pts] Store (12 pts] Image: Store (12 pts] 21 20 > 4.0 meters (13) [30 pts] Store (12 pts] Store (12 pts] 21 3 Some - 10 on (15 pts] Store (12 pts] Store (12 pts] 20 Store (13) [30 pts] Store (13 pts] Store (12 pts] 21 Store (13 pts] Store (12 pts] Store (12 pts] 21 Store (13 pts] Store (12 pts] Store (12 pts] 21 Comments Average BankKrull with H as stooking downstream 2the Maxes of the store (13 pts] 21 20 <t< td=""><td></td><td>Max = 40</td></t<>		Max = 40
Image: Second		15
Bidr Stabs, Boulder, Cobble, Bedrock, Curvers 12 TOTAL NUMBER OF SUBSTRATE TYPES: 3 SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 12 TOTAL NUMBER OF SUBSTRATE TYPES: 3 • Maximum Pool Depth (Measure the maximum pool depth within the 61 femeter (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] > 5 cm - 10 cm [15 pts] > 22.5 cm [25 pts] 20 > 10 - 22.5 cm [25 pts] > 10 - 22.5 cm [25 pts] > 10 - 15 m (> 3' 3' - 4' 8') [15 pts] 20 > 4.0 meters (> 13) [30 pts] > 1.0 m + 1.5 m (> 3' 3' - 4' 8') [15 pts] > 1.0 m + 1.5 m (> 3' 3' - 4' 8') [15 pts] 20 > 4.0 meters (> 13) [30 pts] > 1.0 m + 1.5 m (> 3' 3' - 4' 8') [15 pts] > 1.0 m + 1.5 m (> 3' 3' - 4' 8') [15 pts] 20 > 4.0 meters (> 13) [30 pts] > 1.0 m + 1.5 m (> 3' 3' - 4' 8') [15 pts] > 1.0 m + 1.5 m (> 3' 3' - 4' 8') [15 pts] 20 This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY AVERAGE BANKFULL WIDTH [set : 4.00] 15 This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY AVERAGE BANKFULL WIDTH [set : 4.00] 15 L R (Per Bank) L R (Most Predominant per Bank) L R Conservation Tillage		
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 [25 pts] > 10 - 22.5 cm [25 pts] MAXIMUM POOL DEPTH [mcbes] 3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): > 4.0 m (± 9' 7' - 13') [25 pts] > 1.5 m - 3.0 m (+ 9' 7' - 4''8') [20 pts] > 1.5 m - 3.0 m (+ 9' 7' - 4''8') [20 pts] > 1.5 m - 3.0 m (+ 9' 7' - 4''8') [20 pts] COMMENTS AVERAGE BANKFULL WIDTH [Feet: 4.00] This information must also be completed RIPARIAN VIDITH FLOOPLAIN QUALITY AVOTE: River Left (L) and Right (R) as looking downstream A: RIPARIAN WIDTH Fload (Moderate 5-10 m) Mature Forest, Wetland Conservation Tillage Moderate 5-10 m) Immature Forest, Shrub or Old Urban or Industrial Narrow <5m Reidential, Park, New Field Open Pasture, Row Crop None Fenced Pasture Mining or Construction COMMENTS [row Subustria flow ing looking (Interstitial) COMMENTS [perennial 	Bldr Slabs, Boulder, Cobble, Bedrock	A + B
evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONL Y one box): > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] > 5 cm - 10 cm [15 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts] COMMENTS MAXIMUM POOL DEPTH[methas 12 3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): > 10 m - 1.5 m (s 3' 3' + 4' 8') [15 pts] > 10 m - 1.5 m (s 3' 3' + 4' 8') [15 pts] > 4.0 meters (s 13) [30 pts] > 1.0 m (e 3' 3') [5 pts] > 1.0 m (e 3' 3') [15 pts] 10 > 1.0 m (s 9' 7' - 4' 8') [20 pts] > 1.0 m (e 3' 3') [5 pts] 10 15 COMMENTS AVERAGE BANKFULL WIDTH [rest]: 4.00 15 This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY AVERAGE BANKFULL WIDTH [rest]: 4.00 Imature Forest, Wetland Conservation Tillage 10 15 Imature Forest, Shrub or Old Urban or Industrial Open Pasture, Row Crop None None Fenced Pasture Mining or Construction COMMENTS row Subsurface flow with isolated pools (Interstitial) Dy channel, isolated pools, no flow (Intermittent) Dy channel, no water (Ephemeral) COMMENTS forw <td></td> <td></td>		
→ 30 centimeters [20 pts] → 5 cm · 10 cm [15 pts] < 5 cm [5 pts]		
> 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts] 20 COMMENTS MAXIMUM POOL DEPTH Inches 12 3 BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): 12 3.0 +4.0 meters (> 13) [30 pts] > 1.0 m +1.5 m (> 3' 3' - 4' 8') [15 pts] 30 m + 4.0 m (> 9' 7' - 4' 8') [20 pts] 10 m (<=3' 3') [5 pts]	> 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts]	
3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):		20
→ 4.0 meters (> 13) [30 pts] → 1.0 m (> 3' 3' - 4' 8') [15 pts] Width Max=30 > 3.0 m (> 9' 7' - 13) [25 pts] → 1.0 m (<=3' 3') [5 pts]	COMMENTS MAXIMUM POOL DEPTH Inches 12	
> 3.0 m · 4.0 m (> 9' 7' · 13) [25 pts] ≤ 1.0 m (<=3' 3') [5 pts]	3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):	Bankfull
> 1.5 m - 3.0 m (> 9' 7' - 4' 8') [20 pts] AVERAGE BANKFULL WIDTH Feet : 4.00 15 COMMENTS AVERAGE BANKFULL WIDTH Feet : 4.00 15 Image: Comment in the image: Comment in th		
This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ŵNOTE: River Left (L) and Right (R) as looking downstream ŵ RIPARIAN WIDTH FLOODPLAIN QUALITY ŵNOTE: River Left (L) and Right (R) as looking downstream ŵ Image: Particular and the state of the st		
RIPARIAN ZONE AND FLOODPLAIN QUALITY RIPARIAN WIDTH FLOODPLAIN QUALITY RIPARIAN WIDTH FLOODPLAIN QUALITY Wide >10m Residentiant per Bank) Residentiant per Bank) Moderate 5-10m Residential, Park, New Field Conservation Tillage Narrow <5m	COMMENTS AVERAGE BANKFULL WIDTH Feet : 4.00	15
RIPARIAN ZONE AND FLOODPLAIN QUALITY **NOTE: River Left (L) and Right (R) as looking downstream * RIPARIAN WIDTH FLOODPLAIN QUALITY L R (Per Bank) L Moderate 5-10m Mature Forest, Wetland Moderate 5-10m Immature Forest, Shrub or Old Narrow <5m		
L R (Per Bank) L R (Most Predominant per Bank) L R Vide >10m Immature Forest, Wetland Immature Forest, Shrub or Old Urban or Industrial Moderate 5-10m Immature Forest, Shrub or Old Immature Forest, Shrub or Old Urban or Industrial Narrow <5m		
Wide >10m Mature Forest, Wetland Conservation Tillage Moderate 5-10m Immature Forest, Shrub or Old Urban or Industrial Narrow <5m		
Image: Sinuesting Field Field Open Pasture, Row Crop Open Pasture, Row Crop Mining or Construction COMMENTS row FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Subsurface flow with isolated pools (Interstitial) COMMENTS perennial SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):	Wide >10m Mature Forest, Wetland Conservation Tillage	
Narrow <sm< td=""> Residential, Park, New Field None Fenced Pasture COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Subsurface flow with isolated pools (Interstitial) COMMENTS Dry channel, no water (Ephemeral) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):</sm<>	Field Field	
COMMENTS row FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Subsurface flow with isolated pools (Interstitial) COMMENTS perennial SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):	Narrow <5m Residential, Park, New Field Open Pasture, Row Cr	ор
FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing Subsurface flow with isolated pools (Interstitial) COMMENTS perennial SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):		1
Stream Flowing Moist Channel, isolated pools, no flow (Intermittent) Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral) COMMENTS perennial SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):		-
COMMENTS perennial SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):	Stream Flowing Moist Channel, isolated pools, no flow (Intermitten	<i>i</i>)
		1
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	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)		100 ft)

	M DESIGNATED USE(S)				
WWH Name: Dining			Distance	e from Evaluated Stream	0.00
CWH Name:			Distance	from Evaluated Stream	
EWH Name:			Distance	from Evaluated Stream	
MAPPING: AT	TACH COPIES OF MAPS, INCLU	IDING THE <u>ENTIRE</u> WAT	ERSHED AREA. CL	LEARLY MARK THE SITE L	OCATION
USGS Quadrangle Name	Scio	NRCS Sc	il Map Page:	NRCS Soil Map Stream	Order
County: Carroll			Perry		
		Township / City:_			
MISCELLANE	OUS				
Base Flow Conditions? (Y/N):_ Y Date of last prec	ipitation:06/05/1	8 Quant	tity: 0.11	
Photograph Information:	3 photos				
Elevated Turbidity? (Y/N)): _ N Canopy (% op	en): 100%			
	for water chemistry? (Y/N):		orid and attach u	results) Lab Number:	
	p (°C) Dissolved Oxyge		S.U.) Co	onductivity (µmhos/cm)	
Is the sampling reach rep	presentative of the stream (Y/N)	Y If not, please exp	lain:		
<u> </u>					
Additional comments/des		tions. Voucher collections	; optional. NOTE: all	l voucher samples must be la	abeled wi
BIOTIC EVAL Performed? (Y/N): N Fish Observed? (Y/N) N Frogs or Tadpoles Observed	UATION (If Yes, Record all observa ID number. Include approp Voucher? (Y/N) N Sa rved? (Y/N) N Voucher? (Y/N)	oriate field data sheets from	n the Primary Headv	water Habitat Assessment Ma er? (Y/N)	anual) N
BIOTIC EVAL Performed? (Y/N):N Fish Observed? (Y/N)N	UATION (If Yes, Record all observa ID number. Include approp Voucher? (Y/N) N Sa rved? (Y/N) N Voucher? (Y/N)	oriate field data sheets from	The Primary Headv Y/N) N Vouche	water Habitat Assessment Ma er? (Y/N)	anual) N
BIOTIC EVAL Performed? (Y/N): N Fish Observed? (Y/N) N Frogs or Tadpoles Observed	UATION (If Yes, Record all observa ID number. Include approp Voucher? (Y/N) N Sa rved? (Y/N) N Voucher? (Y/N)	oriate field data sheets from	The Primary Headv Y/N) N Vouche	water Habitat Assessment Ma er? (Y/N)	anual) N
BIOTIC EVAL Performed? (Y/N): N Fish Observed? (Y/N) N Frogs or Tadpoles Observed	UATION (If Yes, Record all observa ID number. Include approp Voucher? (Y/N) N Sa rved? (Y/N) N Voucher? (Y/N)	oriate field data sheets from	The Primary Headv Y/N) N Vouche	water Habitat Assessment Ma er? (Y/N)	anual) N
BIOTIC EVAL Performed? (Y/N): N Fish Observed? (Y/N) Frogs or Tadpoles Obser Comments Regarding Bi	UATION (If Yes, Record all observa ID number. Include approp Voucher? (Y/N) N Sa rved? (Y/N) N Voucher? (Y/N ology:	oriate field data sheets from alamanders Observed? (N) Aquatic Macroin	Y/N) N Vouche vertebrates Observe	vater Habitat Assessment Ma er? (Y/N) N ed? (Y/N) N Voucher? (anual) Y/N)
BIOTIC EVAL Performed? (Y/N): N Fish Observed? (Y/N) N Frogs or Tadpoles Obser Comments Regarding Bi	UATION (If Yes, Record all observa ID number. Include approp Voucher? (Y/N) N Sa rved? (Y/N) N Voucher? (Y/N)	criate field data sheets from alamanders Observed? (Aquatic Macroins Aquatic Macroins CRIPTION OF STR	n the Primary Headw Y/N) N Voucho vertebrates Observe	vater Habitat Assessment Ma er? (Y/N) N ed? (Y/N) N Voucher? (anual) Y/N) <mark>N</mark> ted):
BIOTIC EVAL Performed? (Y/N): N Fish Observed? (Y/N) N Frogs or Tadpoles Obser Comments Regarding Bi	UATION (If Yes, Record all observa ID number. Include approp Voucher? (Y/N) N Sa rved? (Y/N) N Voucher? (Y/N ology:	criate field data sheets from alamanders Observed? (Aquatic Macroins Aquatic Macroins CRIPTION OF STR	n the Primary Headw Y/N) N Voucho vertebrates Observe	vater Habitat Assessment Ma er? (Y/N) N ed? (Y/N) N Voucher? (anual) Y/N) <mark>N</mark> t ted):
BIOTIC EVAL Performed? (Y/N): N Fish Observed? (Y/N) N Frogs or Tadpoles Obser Comments Regarding Bi	UATION (If Yes, Record all observa ID number. Include approp Voucher? (Y/N) N Sa rved? (Y/N) N Voucher? (Y/N ology:	criate field data sheets from alamanders Observed? (Aquatic Macroins Aquatic Macroins CRIPTION OF STR	n the Primary Headw Y/N) N Voucho vertebrates Observe	vater Habitat Assessment Ma er? (Y/N) N ed? (Y/N) N Voucher? (anual) Y/N) N ted):
BIOTIC EVAL Performed? (Y/N): N Fish Observed? (Y/N) N Frogs or Tadpoles Obser Comments Regarding Bi	UATION (If Yes, Record all observa ID number. Include approp Voucher? (Y/N) N Sa rved? (Y/N) N Voucher? (Y/N ology:	criate field data sheets from alamanders Observed? (Aquatic Macroins Aquatic Macroins CRIPTION OF STR	n the Primary Headw Y/N) N Voucho vertebrates Observe	vater Habitat Assessment Ma er? (Y/N) N ed? (Y/N) N Voucher? (anual) Y/N) <mark>N</mark> ted):
BIOTIC EVAL Performed? (Y/N): N Fish Observed? (Y/N) N Frogs or Tadpoles Obser Comments Regarding Bi	UATION (If Yes, Record all observa ID number. Include approp Voucher? (Y/N) N Sa rved? (Y/N) N Voucher? (Y/N ology:	criate field data sheets from alamanders Observed? (Aquatic Macroins Aquatic Macroins CRIPTION OF STR	n the Primary Headw Y/N) N Voucho vertebrates Observe	vater Habitat Assessment Ma er? (Y/N) N ed? (Y/N) N Voucher? (anual) Y/N) <mark>N</mark> ted):
BIOTIC EVAL Performed? (Y/N): N Fish Observed? (Y/N) N Frogs or Tadpoles Obser Comments Regarding Bi	UATION (If Yes, Record all observa ID number. Include approp Voucher? (Y/N) N Sa rved? (Y/N) N Voucher? (Y/N ology: G AND NARRATIVE DES landmarks and other features	criate field data sheets from alamanders Observed? (Aquatic Macroins Aquatic Macroins CRIPTION OF STR	n the Primary Headw Y/N) N Voucho vertebrates Observe	vater Habitat Assessment Ma er? (Y/N) N ed? (Y/N) N Voucher? (anual) Y/N) <mark>N</mark> t ted):
BIOTIC EVAL Performed? (Y/N): N Fish Observed? (Y/N) N Frogs or Tadpoles Obser Comments Regarding Bi	UATION (If Yes, Record all observa ID number. Include approp Voucher? (Y/N) N Sa rved? (Y/N) N Voucher? (Y/N ology: G AND NARRATIVE DES landmarks and other features	criate field data sheets from alamanders Observed? (Aquatic Macroins Aquatic Macroins CRIPTION OF STR	n the Primary Headw Y/N) N Voucho vertebrates Observe	vater Habitat Assessment Ma er? (Y/N) N ed? (Y/N) N Voucher? (anual) Y/N) N ted): m's loca
BIOTIC EVAL Performed? (Y/N): N Fish Observed? (Y/N) N Frogs or Tadpoles Obser Comments Regarding Bi	UATION (If Yes, Record all observa ID number. Include approp Voucher? (Y/N) N Sa rved? (Y/N) N Voucher? (Y/N ology: G AND NARRATIVE DES landmarks and other features	criate field data sheets from alamanders Observed? (Aquatic Macroins Aquatic Macroins CRIPTION OF STR	n the Primary Headw Y/N) N Voucho vertebrates Observe	vater Habitat Assessment Ma er? (Y/N) N ed? (Y/N) N Voucher? (anual) Y/N) N ted): m's loca
BIOTIC EVAL Performed? (Y/N): N Fish Observed? (Y/N) N Frogs or Tadpoles Obser Comments Regarding Bi	UATION (If Yes, Record all observa ID number. Include approp Voucher? (Y/N) N Sa rved? (Y/N) N Voucher? (Y/N ology: G AND NARRATIVE DES landmarks and other features	criate field data sheets from alamanders Observed? (Aquatic Macroins Aquatic Macroins CRIPTION OF STR	n the Primary Headw Y/N) N Voucho vertebrates Observe	vater Habitat Assessment Ma er? (Y/N) N ed? (Y/N) N Voucher? (anual) Y/N) N ted):

PHW I Form Page - 2

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Reset Form

Stream PB-04]
ChieEPA Primary Headwater Habitat Evaluation Form 23	
HHEI Score (sum of metrics 1, 2, 3) :	
SITE NAME/LOCATION FirstEnergy Holloway-Knox 138kV Transmission Line Field ID: s-mdt-06/06/2018-0	2
SITE NUMBER PB-04 RIVER BASIN 05040001 DRAINAGE AREA (mi²) 0.04	
LENGTH OF STREAM REACH (ft) 120 LAT. 40.44341 LONG81.04988 RIVER CODE RIVER MILE	_
DATE 06/06/18 SCORER MDT, TMQ COMMENTS ephemeral flow regime	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction	
STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERING MODIFICATIONS: appears some impact from prior powerline work	Y
1. SUBSTRATE (Estimate percent of every type of substrate 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.	IEI
	tric
BOULDER (>256 mm) [16 pts] 0% LEAF PACK/WOODY DEBRIS [3 pts] 0%	strate
BEDROCK 16 pti V% LILE FINE DETRITUS 13 ptsi V/	= 40
$\square \square $	<u> </u>
SAND (<2 mm) [6 pts]	3
Total of Percentages of 5.00% (A) Substrate Percentage 100% (B) A +	·B
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 9 TOTAL NUMBER OF SUBSTRATE TYPES: 4	
2. Maximum Pool Depth (<i>Measure the maximum pool depth within the 61 meter (200 ft)</i> evaluation reach at the time of Pool	Depth
evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max > 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts]	= 30
> 22.5 - 30 cm [30 pts] < 5 cm [5 pts]	
> 10 - 22.5 cm [25 pts]	'
COMMENTS MAXIMUM POOL DEPTH Inches 2	
	nkfull dth
= 3.0 m - 4.0 m (> 9' 7'' - 13') [25 pts] Max Max	(=30
> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	
	,
This information must also be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY ANOTE: River Left (L) and Right (R) as looking downstream A RIPARIAN WIDTH FLOODPLAIN QUALITY	
<u>L R</u> (Per Bank) <u>L R</u> (Most Predominant per Bank) <u>L R</u>	
Wide >10m Mature Forest, Wetland Conservation Tillage Madazata 5, 10m Immature Forest, Shrub or Old Ultrage or laduatrial	
Field	
Narrow <5m Residential, Park, New Field Open Pasture, Row Crop	
None Fenced Pasture Mining or Construction COMMENTS row	
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 ephemeral	
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	
Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Severe (10 ft/100 ft)	

ADDITIONAL STREAM INF	FORMATION (This Information Must Als	so be Completed):		
QHEI PERFORM	IED? - Yes 🖌 No QHEI Score	(If Yes, Atta	ach Completed QHEI Form)
DOWNSTREAM	DESIGNATED USE(S)			
WWH Name: Dining F			Distance from Evaluate	d Stream 0.19
			Distance from Evaluated	_
EWH Name:			Distance from Evaluated	
	CH COPIES OF MAPS, INCLUDING THE	ENTIRE WATERSHEI	DAREA. CLEARLY MARK	THE SITE LOCATION
USGS Quadrangle Name:	Scio	NRCS Soil Map F	Page: NRCS Soil I	Map Stream Order
County: Carroll	Том	nship / City:Perry		
MISCELLANEOU	JS			
Base Flow Conditions? (Y/N	N):_Y Date of last precipitation:	06/05/18	Quantity: 0.11	
Photograph Information:	photos			
Elevated Turbidity? (Y/N): _	N Canopy (% open): 10	0%		
Were samples collected for	r water chemistry? (Y/N): _N (Note la	ab sample no. or id.	and attach results) Lab Nur	mber:
Field Measures: Temp (pH (S.U.)	Conductivity (µmh	ios/cm)
Is the sampling reach repre	esentative of the stream (Y/N) Y If no	ot, please explain:		
Additional comments/descr	iption of pollution impacts:			
BIOTIC EVALUA	ATION			
N				
Performed? (Y/N):	(If Yes, Record all observations. Vouch		-	
	ID number. Include appropriate field da	ata sheets from the Pr	imary Headwater Habitat Ass	sessment Manual)
Fish Observed? (Y/N)	Voucher? (Y/N) N Salamanders	Observed? (Y/N) N	Voucher? (Y/N)	N
Frogs or Tadpoles Observe	ed? (Y/N) N Voucher? (Y/N) Aqu	atic Macroinvertebra	ites Observed? (Y/N)	Voucher? (Y/N)
Comments Regarding Biolo			N	
include important la	ndmarks and other features of interest f	or site evaluation at	nd a narrative description	
		-		
	_			
	s-mdt-6/6/20108-02			
FLOW 🔫 🛁				
,				T-Line ROW Edge
T-Line ROW Edge	slope			
/				
	PHWH	l Form Page - 2		

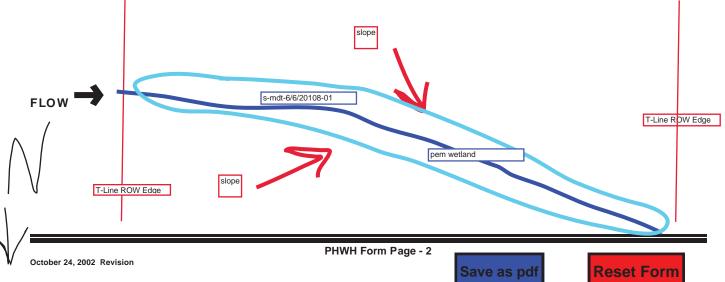
October 24, 2002 Revision

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Reset Form

Stream PB-05	5
ChieEPA Primary Headwater Habitat Evaluation Form 28	1
HHEI Score (sum of metrics 1, 2, 3) :	
SITE NAME/LOCATION FirstEnergy Holloway-Knox 138kV Transmission Line Field ID: s-mdt-06/06/2018-	01
SITE NUMBER PB-05 RIVER BASIN 05040001 DRAINAGE AREA (mi²) 0.01	
LENGTH OF STREAM REACH (ft) 48 LAT. 40.44312 LONG81.05000 RIVER CODE RIVER MILE DATE 06/06/18 SCORER MDT, TMQ COMMENTS ephemeral flow regime	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction	
STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVER MODIFICATIONS: appears some impact from prior powerline work	CT.
1. SUBSTRATE (Estimate percent of every type of substrate 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.	HEI etric
BLDR SLABS [16 pts] 0% SILT [3 pt] 45% PC	oints
BEDROCK 116 pti 0%	ostrate
COBBLE (65-256 mm) [12 pts] 30% CLAY or HARDPAN [0 pt] 0%	x = 40
GRAVEL (2-64 mm) [9 pts] 20% MUCK [0 pts] 0% SAND (<2 mm) [6 pts]	8
Bldr Slabs, Boulder, Cobble, Bedrock	+ B
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 15 TOTAL NUMBER OF SUBSTRATE TYPES: 3	
	I Depth x = 30
> 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] ✓	
	5
COMMENTS MAXIMUM POOL DEPTH Inches 1	
	nkfull
	/idth ax=30
> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	
COMMENTS AVERAGE BANKFULL WIDTH Feet 1.50	5
This information <u>must</u> also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream ☆	
RIPARIAN WIDTH FLOODPLAIN QUALITY L R (Per Bank) L R (Most Predominant per Bank) L R	
Wide >10m Mature Forest, Wetland Conservation Tillage	
Moderate 5-10m Immature Forest, Shrub or Old Urban or Industrial	
Narrow <5m Residential, Park, New Field Open Pasture, Row Crop	
None Fenced Pasture Mining or Construction	
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)	
SINUOSITY (Number of ben <u>ds per 61 m (200 ft) of channel) (Check ONLY one box):</u>	
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)	

ADDITIONAL STREAM INFORMATION (This Information Must Als	so be Completed):
QHEI PERFORMED? - Yes 🖌 No QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: CWH Name: EWH Name:	Distance from Evaluated Stream 0.19 Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE	ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: Scio	NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Carroll Town	nship / City: Perry
MISCELLANEOUS	
Base Flow Conditions? (Y/N):Y Date of last precipitation:	06/05/18 Quantity: 0.11
Photograph Information: 3 photos	
Elevated Turbidity? (Y/N): N Canopy (% open): 10	0%
Were samples collected for water chemistry? (Y/N): (Note la	ab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (µmhos/cm)
Y	t, please explain:
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	
. ,	ner collections optional. NOTE: all voucher samples must be labeled with the site ata sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) Aque	Observed? (Y/N) N Voucher? (Y/N) N atic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N)
Comments Regarding Biology:	
DRAWING AND NARRATIVE DESCRIPTION	N OF STREAM REACH (This <u>must</u> be completed):
	or site evaluation and a narrative description of the stream's location
	1



Stream PB-06
ChieEPA Primary Headwater Habitat Evaluation Form 26
HHEI Score (sum of metrics 1, 2, 3) :
SITE NAME/LOCATION FirstEnergy Holloway-Knox 138kV Transmission Line Field ID: s-mdt-06/06/2018-07
SITE NUMBERRIVER BASIN 05040001 DRAINAGE AREA (mi²) 0.01
LENGTH OF STREAM REACH (ft) 218 LAT. 40.42673 LONG81.05012 RIVER CODE RIVER MILE
DATE 06/06/18 SCORER MDT, TMQ COMMENTS ephemeral flow regime
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions
STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY MODIFICATIONS: appears some impact from landowner/livestock
1. SUBSTRATE (Estimate percent of every type of substrate 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] 0% I SILT [3 pt] 25%
BOULDER (>256 mm) [16 pts]
BEDROCK [16 pt] 0% Image: Substration of the second se
GRAVEL (2-64 mm) [9 pts] 50% MUCK [0 pts] 0%
SAND (<2 mm) [6 pts]
Total of Percentages of 0.00% (A) Substrate Percentage 100% (B) A + B
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 12 TOTAL NUMBER OF SUBSTRATE TYPES: 4
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth (Measure the maximum pool depth
evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max = 3 > 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts]
→ > 22.5 - 30 cm [30 pts] → > 10 - 22.5 cm [25 pts] → NO WATER OR MOIST CHANNEL [0 pts]
3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bankfu
> 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Width > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] \checkmark 5 1.0 m (<=3' 3") [5 pts]
> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]
COMMENTS AVERAGE BANKFULL WIDTH Feet 1.00 5
This information <u>must</u> also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆
RIPARIAN WIDTH FLOODPLAIN QUALITY
L R (Per Bank) L R (Most Predominant per Bank) L R Vide >10m Mature Forest, Wetland Conservation Tillage
Moderate 5-10m Immature Forest, Shrub or Old Urban or Industrial
Narrow <5m Residential, Park, New Field Open Pasture, Row Crop
None Fenced Pasture Mining or Construction
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)
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

ADDITIONAL STREAM INFORMATION (This Information Must Also be Compl	eted):
QHEI PERFORMED? - Yes 🗸 No QHEI Score (If Y	es, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name: Irish Creek	_ Distance from Evaluated Stream 0.76
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATI	ERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: Scio NRCS So	il Map Page: NRCS Soil Map Stream Order
County: Harrison Township / City:_	Rumley
MISCELLANEOUS	
Base Flow Conditions? (Y/N):_Y Date of last precipitation:06/05/1	8 Quantity: 0.11
Photograph Information: 3 photos	
Elevated Turbidity? (Y/N): N Canopy (% open): 100%	
N	b. or id. and attach results) Lab Number:
	S.U.) Conductivity (µmhos/cm)
v	
	Idili.
Additional comments/depariation of pollution imports:	
Additional comments/description of pollution impacts:	
L	
ID number. Include appropriate field data sheets from Fish Observed? (Y/N) N Voucher? (Y/N) N	optional. NOTE: all voucher samples must be labeled with the site n the Primary Headwater Habitat Assessment Manual) Y/N) N Voucher? (Y/N) N vertebrates Observed? (Y/N) N Voucher? (Y/N) N
DRAWING AND NARRATIVE DESCRIPTION OF STRI	
Include important landmarks and other features of interest for site evalue	ation and a narrative description of the stream's location
slope	
	pem wetland
s-mdt-6/6/20106-07	
FLOW	
	T-Line RDW Edge
slope	
T-Line ROW Edge	
I. Contraction of the second se	
October 24, 2002 Revision PHWH Form Page	

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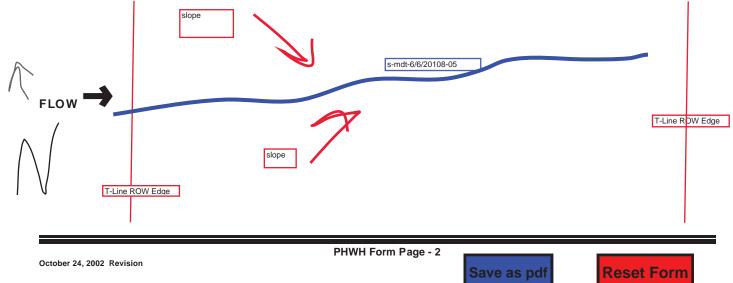
Stream PB-07	
ChieFPA Primary Headwater Habitat Evaluation Form 35	
HHEI Score (sum of metrics 1, 2, 3) :	
SITE NAME/LOCATION FirstEnergy Holloway-Knox 138kV Transmission Line Field ID: s-mdt-06/06/2018-06	3
SITE NUMBER RIVER BASIN 05040001 DRAINAGE AREA (mi²) 0.09	4
LENGTH OF STREAM REACH (ft) 191 LAT. 40.42625 LONG81.05006 RIVER CODE RIVER MILE DATE 06/06/18 SCORER MDT, TMQ COMMENTS intermittent flow regime	-
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions	
STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY MODIFICATIONS: appears some impact from landowner/livestock	
1. SUBSTRATE (Estimate percent of every type of substrate 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	IEI tric
BLDR SLABS [16 pts] 0% SILT [3 pt] 15% Poin	
BOULDER (>256 mm) [16 pts] 0% LEAF PACK/WOODY DEBRIS [3 pts] 0% BEDROCK [16 pt] 0% FINE DETRITUS [3 pts] 0% Subst	
COBBLE (65-256 mm) [12 pts] 0% CLAY or HARDPAN [0 pt] 0%	= 40
GRAVEL (2-64 mm) [9 pts] 75% MUCK [0 pts] 0% SAND (<2 mm) [6 pts]	5
Total of Percentages of a conv (A) Substrate Percentage (B)	
Bidr Slabs, Boulder, Cobble, Bedrock 0.00% (A) SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 12 TOTAL NUMBER OF SUBSTRATE TYPES: 3	Б
	Denth
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 [5 pts]	
> 10 - 22.5 cm [25 pts]	5
COMMENTS MAXIMUM POOL DEPTH Inches 2	
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] Wid	
= 3.0 m - 4.0 m (> 9' 7'' - 13') [25 pts]	
> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	
COMMENTS AVERAGE BANKFULL WIDTH Feet : 2.00 5	
This information must also be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY \$\frac{1}{2}\NOTE: River Left (L) and Right (R) as looking downstream \$\frac{1}{2}\ RIPARIAN WIDTH FLOODPLAIN QUALITY	
L R (Per Bank) L R (Most Predominant per Bank) L R	
✓ Wide >10m Mature Forest, Wetland Conservation Tillage Moderate 5-10m ✓ Immature Forest, Shrub or Old Urban or Industrial	
Narrow <5m	
COMMENTS row	
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_intermittent	
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box): None 1.0 2.0 3.0	
$\square 0.5 \qquad \boxed{ 1.5 } \qquad \boxed{ 2.5 } \qquad \boxed{ >3 }$	
STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe	

ADDITIONAL STREAM INFORMATION (This Information Must Also b	e Completed):
QHEI PERFORMED? - Yes 🗸 No QHEI Score	(If Yes, Attach Completed QHEI Form)
JOWNSTREAM DESIGNATED USE(S) WWH Name: Irish Creek CWH Name: EWH Name:	
	RE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: Scio	NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Harrison Township	p / City:Rumley
MISCELLANEOUS Base Flow Conditions? (Y/N):_Y Date of last precipitation:	06/05/18 Quantity: 0.11
Photograph Information: 3 photos	
Elevated Turbidity? (Y/N): N Canopy (% open): 100%	
Were samples collected for water chemistry? (Y/N): (Note lab same	ample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, pla	ease explain:
BIOTIC EVALUATION Performed? (Y/N): N (If Yes, Record all observations. Voucher clip number. Include appropriate field data slip Fish Observed? (Y/N) N Voucher? (Y/N) N	ollections optional. NOTE: all voucher samples must be labeled with the site heets from the Primary Headwater Habitat Assessment Manual) erved? (Y/N) N Voucher? (Y/N) N Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N)
	PF STREAM REACH (This <u>must</u> be completed): ite evaluation and a narrative description of the stream's location s-mdt-6/6/20108-06 T-Line RDW Edge
PHWH For	rm Page - 2
October 24, 2002 Revision	Save as pdf Reset Form

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Stream PB-08	;	
ChieEPA Primary Headwater Habitat Evaluation Form		
HHEI Score (sum of metrics 1, 2, 3) :	<u> </u>	
SITE NAME/LOCATION FirstEnergy Holloway-Knox 138kV Transmission Line Field ID: s-mdt-06/06/2018-0)5	
SITE NUMBER PB-08 RIVER BASIN 05040001 DRAINAGE AREA (mi²) 0.01		
LENGTH OF STREAM REACH (ft) 116 LAT. 40.42551 LONG81.05022 RIVER CODE RIVER MILE		
DATE 06/06/18 SCORER MDT, TMQ COMMENTS ephemeral flow regime		
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction		
STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVER MODIFICATIONS: appears some impact from landowner to straighten	Y	
	HEI	
	etric	
BOULDER (>256 mm) [16 pts] 0% LEAF PACK/WOODY DEBRIS [3 pts] 0%	strate	
BEDROCK [16 pt] 0% FINE DETRITOS [3 pts] 0%	$\kappa = 40$	
GRAVEL (2-64 mm) [9 pts] 20% MUCK [0 pts] 0%	-	
SAND (<2 mm) [6 pts]	7	
Total of Percentages of 0.00% (A) Substrate Percentage 100% (B) A -	+ B	
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3 TOTAL NUMBER OF SUBSTRATE TYPES: 4		
2. Maximum Pool Depth (<i>Measure the maximum pool depth within the 61 meter (200 ft</i>) evaluation reach at the time of Pool	Depth	
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]	κ = 30	
	_	
> 10 - 22.5 cm [25 pts]	`	
COMMENTS MAXIMUM POOL DEPTH Inches 1		
	nkfull idth	
$\square > 3.0 \text{ m} - 4.0 \text{ m} (> 9' 7" - 13') [25 \text{ pts}]$ $\blacksquare \le 1.0 \text{ m} (<=3' 3") [5 \text{ pts}]$ Max	x=30	
> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]		
	5	
This information must also be completed		
RIPARIAN ZONE AND FLOODPLAIN QUALITY		
RIPARIAN WIDTH FLOODPLAIN QUALITY L_R (Per Bank) L_R (Most Predominant per Bank) L_R		
Wide >10m Mature Forest, Wetland Conservation Tillage Immature Forest, Shrub or Old Understand to the serve to the s		
Field		
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 Moist Channel, isolated pools, no flow (Intermittent)		
Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral)		
SINUOSITY (Number of ben <u>ds per 61 m (200 ft) of channel) (Check ONLY one box):</u>		
None 1.0 2.0 3.0 0.5 1.5 2.5 >3		
STREAM GRADIENT ESTIMATE		
Image: Stream GRADIENT ESTIMATE Image: Stream GRADIENT ESTIMATE <td></td>		

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: Irish Creek CWH 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: Scio NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Harrison Township / City: Rumley
MISCELLANEOUS Base Flow Conditions? (Y/N): Y Date of last precipitation: 06/05/18 Quantity: 0.11
Photograph Information: _3 photos
Elevated Turbidity? (Y/N): N Canopy (% open): 100%
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain:
BIOTIC EVALUATION Performed? (Y/N):N
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This <u>must</u> be completed): Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



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Stream PB-09	
ChieEPA Primary Headwater Habitat Evaluation Form 35	
HHEI Score (sum of metrics 1, 2, 3) :	
SITE NAME/LOCATION FirstEnergy Holloway-Knox 138kV Transmission Line Field ID: s-mdt-06/06/2018-10	<u> </u>
SITE NUMBER PB-09 RIVER BASIN 05040001 DRAINAGE AREA (mi²) 0.04	<u> </u>
LENGTH OF STREAM REACH (ft) 166 LAT. 40.42072 LONG81.05074 RIVER CODE RIVER MILE	4
DATE 06/06/18 SCORER MDT, TMQ COMMENTS intermittent flow regime	_
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions	
STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY MODIFICATIONS:	
	_
1. SUBSTRATE (Estimate percent of every type of substrate 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.	ĘI
TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] 0% ✓ SILT [3 pt] 20%	
BOULDER (>256 mm) [16 pts]	rate
Image: BedRock [16 pt] 0% Image: Fine Detritus [3 pts] 0% Substr Image: Complex (65-256 mm) [12 pts] 0% Image: Clay or HARDPAN [0 pt] 0% Max =	
GRAVEL (2-64 mm) [9 pts] 65% MUCK [0 pts] 0%	
SAND (<2 mm) [6 pts] 15% ARTIFICIAL [3 pts] 0%	
Total of Percentages of 0.00% (A) Substrate Percentage 100% (B) A + E	3
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 12 TOTAL NUMBER OF SUBSTRATE TYPES: 3	
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool D	
evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max = > 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts]	= 30
> 22.5 - 30 cm [30 pts] < 5 cm [5 pts]	
3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bank	full
> 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Widt	th
$ = 3.0 \text{ m} - 4.0 \text{ m} (> 9' 7" - 13') [25 \text{ pts}] \\ > 1.5 \text{ m} - 3.0 \text{ m} (> 9' 7" - 4' 8") [20 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3" 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3"$:30
COMMENTS AVERAGE BANKFULL WIDTH Feet : 2.00 5	
This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆	
RIPARIAN WIDTH FLOODPLAIN QUALITY	
L R (Per Bank) L R (Most Predominant per Bank) L R Wide >10m Mature Forest, Wetland Conservation Tillage	
Moderate 5-10m Immature Forest, Shrub or Old 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 Moist Channel, isolated pools, no flow (Intermittent)	
Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral)	
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	

QHEI PERFORMED? - Yes 🗸 No QHE	I Score (If)	Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)		
CWH Name:		Distance from Evaluated Stream Distance from Evaluated Stream
	JDING THE <u>ENTIRE</u> WAT	ERSHED AREA. CLEARLY MARK THE SITE LOCATION
JSGS Quadrangle Name:_Scio	NRCS So	bil Map Page: NRCS Soil Map Stream Order
County: Harrison	Township / City:_	Rumley
MISCELLANEOUS		
Base Flow Conditions? (Y/N): Y _ Date of last pred	cipitation: 06/05/1	8 Quantity: 0.11
Photograph Information: _3 photos	···	
	nen). 100%	
Elevated Turbidity? (Y/N): _ N Canopy (% op		
Were samples collected for water chemistry? (Y/N):	(Note lab sample n	o. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxyge	en (mg/l) pH	(S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N)	Y If not, please exp	plain:
Additional comments/description of pollution impacts:		
Fish Observed? (Y/N) N Voucher? (Y/N) N S Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N Comments Regarding Biology:	alamanders Observed? (N) N Aquatic Macroin	(Y/N) N Voucher? (Y/N) N vertebrates Observed? (Y/N) N Voucher? (Y/N)
DRAWING AND NARRATIVE DES	CRIPTION OF STR	EAM REACH (This <u>must</u> be completed):
		uation and a narrative description of the stream's locat
	_	
slop	De	
	$ \rightarrow $	T-Line R
slope		s-mdt-6/6/20108-10
T-Line ROW Edge		
1		
	PHWH Form Page	e - 2

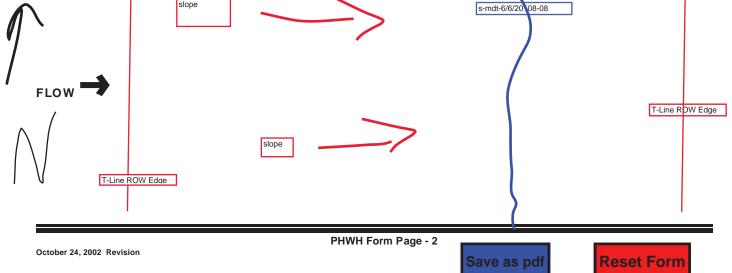
Stream PB-10	
ChieFPA Primary Headwater Habitat Evaluation Form 26	
HHEI Score (sum of metrics 1, 2, 3) :	
SITE NAME/LOCATION FirstEnergy Holloway-Knox 138kV Transmission Line Field ID: s-mdt-06/06/2018-09]
SITE NUMBER PB-10 RIVER BASIN 05040001 DRAINAGE AREA (mi²) 0.02	4
LENGTH OF STREAM REACH (ft) 92 LAT. 40.41043 LONG. -81.05195 RIVER CODE RIVER MILE DATE 06/06/18 SCORER MDT, TMQ COMMENTS ephemeral flow regime	4
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions	
STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY	
MODIFICATIONS: channelized for culvert	
1. SUBSTRATE (Estimate percent of every type of substrate 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] 0% SILT [3 pt] 35% Point	
BOULDER (>256 mm) [16 pts] 0% LEAF PACK/WOODY DEBRIS [3 pts] 0% BEDROCK [16 pt] 0% FINE DETRITUS [3 pts] 0%	
COBBLE (65-256 mm) [12 pts] 10% CLAY or HARDPAN [0 pt] 0%	40 一
GRAVEL (2-64 mm) [9 pts] 40% Image: MUCK [0 pts] 0% SAND (<2 mm) [6 pts]	
Total of Percentages of (A) Substrate Percentage (B)	
Bldr Slabs, Boulder, Cobble, Bedrock TOLOU% (X) TOTAL NUMBER OF SUBSTRATE TYPES: 4	,
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth	onth
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] ✓	
> 10 - 22.5 cm [25 pts]	
COMMENTS MAXIMUM POOL DEPTH	
3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bankfr > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Width	
$\square > 3.0 \text{ m} - 4.0 \text{ m} (> 9' 7" - 13') [25 \text{ pts}]$ $\square \le 1.0 \text{ m} (<=3' 3") [5 \text{ pts}]$ Max=3	
> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	
COMMENTS AVERAGE BANKFULL WIDTH Feet 1. 1.00 5	
This information <u>must</u> also be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY ************************************	
LR (Per Bank) LR (Most Predominant per Bank) LR	
✓ Wide >10m Mature Forest, Wetland Conservation Tillage Moderate 5-10m ✓ Immature Forest, Shrub or Old Urban or Industrial	
Narrow <5m	
COMMENTS	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):	
Stream Flowing Subsurface flow with isolated pools (Interstitial) Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral)	
COMMENTS ephemeral	
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):	
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	

	Distance from Evaluated Stream 0.56
WWH Name: Irish Creek	
_CWH Name:	Distance from Evaluated Stream
	ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
ISGS Quadrangle Name: Scio	NRCS Soil Map Page: NRCS Soil Map Stream Order
	nship / City:Rumley
MISCELLANEOUS	nsnip / Gity
ase Flow Conditions? (Y/N):_Y Date of last precipitation:_	06/05/18 Quantity: 0.11
hotograph Information: 3 photos	Quantity
	00%
	lab sample no. or id. and attach results) Lab Number:
	pH (S.U.) Conductivity (µmhos/cm)
s the sampling reach representative of the stream (Y/N)	ot, please explain:
<u> </u>	
dditional comments/description of pollution impacts:	
rish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aqui Comments Regarding Biology:	Cobserved? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N) N
DRAWING AND NARRATIVE DESCRIPTIO	N OF STREAM REACH (This <u>must</u> be completed):
	N OF STREAM REACH (This <u>must</u> be completed): for site evaluation and a narrative description of the stream's loca
Include important landmarks and other features of interest	for site evaluation and a narrative description of the stream's loca
Include important landmarks and other features of interest	for site evaluation and a narrative description of the stream's loca

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

Stream PB-11	
ChieFPA Primary Headwater Habitat Evaluation Form 46	
HHEI Score (sum of metrics 1, 2, 3) :	
SITE NAME/LOCATION FirstEnergy Holloway-Knox 138kV Transmission Line Field ID: s-mdt-06/06/2018-08]
SITE NUMBER PB-11 RIVER BASIN 05040001 DRAINAGE AREA (mi ²) 0.45	1
LENGTH OF STREAM REACH (ft) 680 LAT. 40.40730 LONG81.05164 RIVER CODE RIVER MILE	_
DATE 06/06/18 SCORER MDT, TMQ COMMENTS intermittent flow regime	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions	;
STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY MODIFICATIONS:	
MODIFICATIONS.	
1. SUBSTRATE (Estimate percent of every type of substrate 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.	EI
TYPE PERCENT TYPE PERCENT Dein	ric
BOULDER (>256 mm) [16 pts] 0% LEAF PACK/WOODY DEBRIS [3 pts] 0%	
BEDROCK [16 pt] 0% Substr Max =	
□ COBBLE (65-256 mm) [12 pts] 20% □ CLAY or HARDPAN [0 pt] 0% □ ✓ GRAVEL (2-64 mm) [9 pts] 30% □ MUCK [0 pts] 0%	
Image: Sand (<2 mm) [6 pts]	
Total of Percentages of 20.00% (A) Substrate Percentage 100% (B) A + B]
Bldr Slabs, Boulder, Cobble, Bedrock TOTAL NUMBER OF SUBSTRATE TYPES: 4	
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth	onth
evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max =	
> 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] < 5 cm [5 pts]	-
> 10 - 22.5 cm [25 pts]	
COMMENTS MAXIMUM POOL DEPTH Inches 8	
3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bankf	
= > 4.0 meters (> 13') [30 pts] = > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Width $ = 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]$	
> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	
COMMENTS AVERAGE BANKFULL WIDTH Feet : 3.00 5	
This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream ☆	
RIPARIAN WIDTHFLOODPLAIN QUALITYL R (Per Bank)L R (Most Predominant per Bank)L R	
Wide >10m Mature Forest, Wetland Conservation Tillage	
Moderate 5-10m Immature Forest, Shrub or Old 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 Moist Channel, isolated pools, no flow (Intermittent)	
Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral)	
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 (10 ft/100 ft)	

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: Irish Creek Distance from Evaluated Stream 0.24 CWH Name: Distance from Evaluated Stream Distance from Evaluated Stream EWH Name: Distance from Evaluated Stream Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: Scio NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Harrison Township / City: Rumley
MISCELLANEOUS
Base Flow Conditions? (Y/N):_ Y Date of last precipitation: 06/05/18 Quantity: 0.11
Photograph Information: 3 photos
Elevated Turbidity? (Y/N): N Canopy (% open): 100%
Were samples collected for water chemistry? (Y/N): _ N (Note lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain:
Additional comments/description of pollution impacts:
BIOTIC EVALUATION
Performed? (Y/N): (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) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) N Voucher? (Y/
Comments Regarding Biology:
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This <u>must</u> be completed):
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location
slope s-mdt-6/6/20\08-08



Stream PB-13	
ChieEPA Primary Headwater Habitat Evaluation Form 35	
HHEI Score (sum of metrics 1, 2, 3) :	j
SITE NAME/LOCATION FirstEnergy Holloway-Knox 138kV Transmission Line Field ID: s-mdt-06/07/2018-03	5
SITE NUMBERRIVER BASIN 05040001 DRAINAGE AREA (mi²) 0.01	4
LENGTH OF STREAM REACH (ft) 105 LAT. 40.39726 LONG81.05197 RIVER CODE RIVER MILE	4
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions	
STREAM CHANNEL Image: None / Natural Channel Image: Recovering	
1. SUBSTRATE (Estimate percent of every type of substrate 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.	El
Delta BLDR SLABS [16 pts] 0% Delta SILT [3 pt] 10% Point	
BOULDER (>256 mm) [16 pts] 0% LEAF PACK/WOODY DEBRIS [3 pts] 0% BEDROCK [16 pt] 0% FINE DETRITUS [3 pts] 0%	trate
□ COBBLE (65-256 mm) [12 pts] 20% □ CLAY or HARDPAN [0 pt] 0%	= 40
GRAVEL (2-64 mm) [9 pts] 60% MUCK [0 pts] 0% 25 SAND (<2 mm) [6 pts]	5
ARTIFICIAL [3 pts]	
Total of Percentages of 20.00% (A) Substrate Percentage 100% (B) A + E	В
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 21 TOTAL NUMBER OF SUBSTRATE TYPES: 4	
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): Max =	•
> 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts]	= 30
> 22.5 - 30 cm [30 pts] ✓ < 5 cm [5 pts]	
3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bank	cfull
> 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Width	th
$ = 3.0 \text{ m} - 4.0 \text{ m} (> 9' 7" - 13') [25 \text{ pts}] \\ = 1.5 \text{ m} - 3.0 \text{ m} (> 9' 7" - 4' 8") [20 \text{ pts}] \\ = 1.5 \text{ m} - 3.0 \text{ m} (> 9' 7" - 4' 8") [20 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3" 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3" 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3" 3") [5 p$	=30
COMMENTS AVERAGE BANKFULL WIDTH Feet 1.50 5	
This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆	
RIPARIAN ZONE AND FLOODF LAIN QUALITY ANOTE: River Len (E) and Right (R) as looking downstream A RIPARIAN WIDTH FLOODFLAIN QUALITY	
L R (Per Bank) L R (Most Predominant per Bank) L R Vide >10m Mature Forest, Wetland Conservation Tillage	
Moderate 5-10m Immature Forest, Shrub or Old	
Image: A second contraction Image: A second contraction Image: A second contraction Field Image: A second contraction Image: A second contraction Image: A secon	
None Fenced Pasture Mining or Construction	
COMMENTS	
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 ephemeral	
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):	
STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe	

ADDITIONAL STREAM INFORMATION (This Information Must Also b	be Completed):
QHEI PERFORMED? - Yes 🖌 No QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	Distance from Evaluated Stream 0.49 miles
EWH Name:	Distance from Evaluated Stream
	IRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
Co.ia	NRCS Soil Map Page: NRCS Soil Map Stream Order
	ip / City: Rumley
MISCELLANEOUS	p / Oity
Y	06/05/18 Quantity: 0.11
	06/05/18Quantity:0.11
Photograph Information: 3 photos	
	sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mq/l)	pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, p	lease explain:
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	
	collections optional. NOTE: all voucher samples must be labeled with the site
	sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic	served? (Y/N) Voucher? (Y/N) Voucher? (Y/N) N Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
Comments Regarding Biology:	
DRAWING AND NARRATIVE DESCRIPTION C	OF STREAM REACH (This <u>must</u> be completed):
	site evaluation and a narrative description of the stream's location
slope	
s-mdt-6/7/20108-03	
FLOW	
	T-Line RDW Edge
slope	
V T-Line ROW Edge	

October 24, 2002 Revision

PHWH Form Page - 2

Save as pdf

Reset Form

Stream PB-14	
ChieFPA Primary Headwater Habitat Evaluation Form 35	
HHEI Score (sum of metrics 1, 2, 3) :	
SITE NAME/LOCATION FirstEnergy Holloway-Knox 138kV Transmission Line Field ID: s-mdt-06/07/2018-02]
SITE NUMBER PB-14 RIVER BASIN 05040001 DRAINAGE AREA (mi²) 0.01	1
LENGTH OF STREAM REACH (ft) 124 LAT. 40.39698 LONG81.05198 RIVER CODE RIVER MILE	_
DATE 06/07/18 SCORER MDT, TMQ COMMENTS ephemeral flow regime	_
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions	\$
STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY MODIFICATIONS :	
1. SUBSTRATE (Estimate percent of every type of substrate 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 Metr Image: BLDR SLABS [16 pts] 0% Image: SILT [3 pt] 15% Percent	
BOULDER (>256 mm) [16 pts] 0% LEAF PACK/WOODY DEBRIS [3 pts] 0%	
BEDROCK [16 pt] 0% FINE DETRITUS [3 pts] 0% Substr COBBLE (65-256 mm) [12 pts] 20% CLAY or HARDPAN [0 pt] 0% Max =	
GRAVEL (2-64 mm) [9 pts] 55% MUCK [0 pts] 0% 25	
SAND (<2 mm) [6 pts]	
Total of Percentages of 20.00% (A) Substrate Percentage 100% (B) A + B	3
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 21 TOTAL NUMBER OF SUBSTRATE TYPES: 4	
2. Maximum Pool Depth (<i>Measure the maximum pool depth within the 61 meter (200 ft</i>) evaluation reach at the time of Pool Depth	epth
evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max = > 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts]	30
 > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts] 	
	<u></u>
> 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Widt	h
$ = 3.0 \text{ m} - 4.0 \text{ m} (> 9' 7" - 13') [25 \text{ pts}] \\ > 1.5 \text{ m} - 3.0 \text{ m} (> 9' 7" - 4' 8") [20 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3" 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3"$	30
COMMENTS AVERAGE BANKFULL WIDTH Feet : 1.00 5	
This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream ☆	
RIPARIAN ZONE AND FLOODFLAIN QUALITY STOTE: River Left (L) and Right (R) as looking downstream streams RIPARIAN WIDTH FLOODFLAIN QUALITY	
L R (Per Bank) L R (Most Predominant per Bank) L R Vide >10m Mature Forest, Wetland Conservation Tillage	
Moderate 5-10m	
Narrow <5m Residential, Park, New Field Open Pasture, Row Crop	
None Fenced Pasture Mining or Construction	
COMMENTS row	
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 ephemeral	
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):	
0.5 1.5 2.5 >3	
STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft) Flat to Moderate (2 ft/100 ft) Moderate to Severe (10 ft/100 ft)	

	ted):		
QHEI PERFORMED? - Yes 🖌 No QHEI Score (If Yes	es, Attach Completed QHEI Form)		
DOWNSTREAM DESIGNATED USE(S)			
WWH Name: Irish Creek	Distance from Evaluated Stream	0.49	mile
_CWH Name:	Distance from Evaluated Stream Distance from Evaluated Stream		-
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATER			
SGS Quadrangle Name: Scio NRCS Soil		m Order	-
Dunty: Harrison Township / City: F	Rumley		
MISCELLANEOUS			
use Flow Conditions? (Y/N):Y Date of last precipitation:06/05/18	Quantity: 0.11		
otograph Information: 3 photos			
evated Turbidity? (Y/N): _ N Canopy (% open): _ 100%			
	or id. and attach results) Lab Number:		
eld Measures: Temp (°C) Dissolved Oxygen (mq/l) pH (S.	.U.) Conductivity (µmhos/cm)		
the sampling reach representative of the stream (Y/N) If not, please expla	ain:		
Iditional comments/description of pollution impacts:			
rformed? (Y/N): (If Yes, Record all observations. Voucher collections o ID number. Include appropriate field data sheets from			he site
N		, 	
sh Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) ogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinver	/N) Voucher? (Y/N) Voucher? ertebrates Observed? (Y/N) Voucher?	(Y/N) N	
	N		
omments Regarding Biology:			
OMMENTS Regarding Biology:	AM REACH (This <u>must</u> be compl	eted):	
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DRAWING AND NARRATIVE DESCRIPTION OF STREA			n
DRAWING AND NARRATIVE DESCRIPTION OF STRE			n
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DRAWING AND NARRATIVE DESCRIPTION OF STREA Include important landmarks and other features of interest for site evaluat			n
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DRAWING AND NARRATIVE DESCRIPTION OF STREA Include important landmarks and other features of interest for site evaluat		am's locatio	
DRAWING AND NARRATIVE DESCRIPTION OF STREA Include important landmarks and other features of interest for site evaluat		am's locatio	

October 24, 2002 Revision

PHWH Form Page - 2

Save as pdf

Reset Form

Stream PB-15	
ChieEPA Primary Headwater Habitat Evaluation Form 34	
HHEI Score (sum of metrics 1, 2, 3) :	
SITE NAME/LOCATION FirstEnergy Holloway-Knox 138kV Transmission Line Field ID: s-mdt-06/07/2018-01	
SITE NUMBER PB-15 RIVER BASIN 05040001 DRAINAGE AREA (mi²) 0.02	_
LENGTH OF STREAM REACH (ft) 151 LAT. 40.39632 LONG81.05200 RIVER CODE RIVER MILE	_
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions	
STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY MODIFICATIONS: existing ROW causing some fill and grading to happen along stream	
1. SUBSTRATE (Estimate percent of every type of substrate 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.	El
TYPE PERCENT TYPE PERCENT PERCENT POINT Image: Description of the state of the sta	
BOULDER (>256 mm) [16 pts] 0% LEAF PACK/WOODY DEBRIS [3 pts] 0% BEDROCK [16 pt] 0% FINE DETRITUS [3 pts] 0% Substitution	trate
$\square \square $	= 40
GRAVEL (2-64 mm) [9 pts] 35% MUCK [0 pts] 0% SAND (<2 mm) [6 pts]	L I
Total of Percentages of 45.00% (A) Substrate Percentage 100% (B) A + E	В
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 21 TOTAL NUMBER OF SUBSTRATE TYPES: 3	
 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): Max = 	
> 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts]	
 > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts] ✓ < 5 cm [5 pts] NO WATER OR MOIST CHANNEL [0 pts] 	
COMMENTS MAXIMUM POOL DEPTH Inches 1	
3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bank	cfull
> 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Width > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] \checkmark \le 1.0 m (<=3' 3") [5 pts]	
> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	
COMMENTS AVERAGE BANKFULL WIDTH Feet 1.50 5	
This information <u>must</u> also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream ☆	
RIPARIAN WIDTH FLOODPLAIN QUALITY L R (Per Bank) L R (Most Predominant per Bank) L R	
Wide >10m Mature Forest, Wetland Conservation Tillage	
Moderate 5-10m Immature Forest, Shrub or Old Urban or Industrial	
Narrow <5m Residential, Park, New Field Open Pasture, Row Crop	
None Fenced Pasture Mining or Construction COMMENTS ROW, forested on either end of ROW	
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)	
SINUOSITY (Number of ben <u>ds per 61 m (200 ft) of channel) (Check ONLY one box):</u>	
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)	

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed)	<u>):</u>
QHEI PERFORMED? - Yes 🗸 No QHEI Score (If Yes, A	Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: Irish Creek CWH Name:	Distance from Evaluated Stream 0.50 miles Distance from Evaluated Stream Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSH	IED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: Scio NRCS Soil Ma	p Page: NRCS Soil Map Stream Order
County: Harrison Township / City: Run	nley
MISCELLANEOUS Base Flow Conditions? (Y/N): Y Date of last precipitation: 06/05/18 Photograph Information: 3 photos	Quantity: 0.11
Elevated Turbidity? (Y/N): _ N Canopy (% open): _ 85%	d. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Is the sampling reach representative of the stream (Y/N) Y If not, please explain:	Conductivity (µmhos/cm)
Additional comments/description of pollution impacts:	
ID number. Include appropriate field data sheets from the Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N)	
DRAWING AND NARRATIVE DESCRIPTION OF STREAM Include important landmarks and other features of interest for site evaluation	· <u> </u>
FLOW	in ROW]

Centerline

B

1

ROW Edge

Save as pdf

Stream PB-17,1	8,19
ChieEPA Primary Headwater Habitat Evaluation Form	36
HHEI Score (sum of metrics 1, 2, 3) :	30
SITE NAME/LOCATION FirstEnergy Holloway-Knox 138kV Transmission Line Field ID: s-mdt-06/07/2	018-05
SITE NUMBER PB-17,18,19 RIVER BASIN 05040001 DRAINAGE AREA (mi²)	.20
LENGTH OF STREAM REACH (ft) 89 LAT. 40.37679 LONG81.05317 RIVER CODE RIVER MILE	
DATE 06/07/18 SCORER MDT, TMQ COMMENTS intermittent flow regime	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instr	uctions
STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO REC	OVERY
MODIFICATIONS: recent impact from pipeline construction	
1. SUBSTRATE (Estimate percent of every type of substrate 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	HHEI Metric
BLDR SLABS [16 pts] 0% SILT [3 pt] 25%	Points
BOULDER (>256 mm) [16 pts] 0% LEAF PACK/WOODY DEBRIS [3 pts] 0% BEDROCK [16 pt] 0% FINE DETRITUS [3 pts] 0%	Substrate
$\square \square COBBLE (65-256 mm) [12 pts] \qquad \boxed{15\%} \qquad \square \square CLAY or HARDPAN [0 pt] \qquad \boxed{0\%}$	Max = 40
GRAVEL (2-64 mm) [9 pts] 50% MUCK [0 pts] 0%	16
SAND (<2 mm) [6 pts]	
Total of Percentages of 15.00% (A) Substrate Percentage 100% (B)	A + B
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 12 TOTAL NUMBER OF SUBSTRATE TYPES: 4	
2. Maximum Pool Depth (<i>Measure the maximum pool depth within the 61 meter (200 ft</i>) evaluation reach at the time of	Pool Depth
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]	Max = 30
> 22.5 - 30 cm [30 pts] < 5 cm [5 pts]	
> 10 - 22.5 cm [25 pts]	15
COMMENTS MAXIMUM POOL DEPTH Inches 4	
3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):	Bankfull
= > 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]	Width Max=30
> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	
COMMENTS AVERAGE BANKFULL WIDTH	5
This information <u>must</u> also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY 차이어든: River Left (L) and Right (R) as looking downstream☆	
RIPARIAN ZONE AND FLOODFLAIN QUALITY STRUTE. River Left (L) and Right (R) as looking downstream 32 RIPARIAN WIDTH FLOODFLAIN QUALITY	
L R (Per Bank) L R (Most Predominant per Bank) L R	
Moderate 5-10m Immature Forest, Shrub or Old	
	op
Image: Marrow <5m	
COMMENTS row	
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_intermittent	L
SINUOSITY (Number of ben <u>ds per 61 m (200 ft) of channel) (C</u> heck ONLY one box):	
None Image: 1.0 Image: 2.0 3.0 0.5 Image: 1.5 Image: 2.5 Image: 3.0	
STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/1	00 ft)

CWH Name: Distance from Evaluated Stream MAPPING: ATTACH COPES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION USGS Quadrangie Name; Scio County: Harrison Township / City: Runnel Scio Statuse from Evaluated Stream Order ClearLY MARK THE SITE LOCATION NISCS Cluarangie Name; Scio County: Harrison Township / City: Runnel Base Flow Conditions? (Y/N): Date of last preceptation: Ob/05/18 Quantity: Photograph information: Sphotos Elevated Turbidity? (Y/N): N Canopy (% open): 100% Ware samples collected for water chemistry? (Y/N): N (Note lab sampling neach representative of the stream (Y/N) If not, please explain: Statuse from the comments/description of pollution impacts: If not, please explain: Additional comments/description of pollution impacts: If not, please explain: Comments: Norther? (Y/N) Aquatic Macrineer/def (Y/N) Voucher? (Y/N) Comments: Regarding Biology: Voucher? (Y/N) Aquatic Macrineer/def (Y/N) Voucher? (Y/N) Comments:	QHEI PERFORMED? - 🗌 Yes 🗸	No QHEI Score	(If Yes, Attach Completed	QHEI Form)		
CWH Name: Distance from Evaluated Stream MAPPING: ATTACH COPES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION USGS Quadrangie Name; Scio County: Harrison Township / City: Runnel Scio Statuse from Evaluated Stream Order ClearLY MARK THE SITE LOCATION NISCS Cluarangie Name; Scio County: Harrison Township / City: Runnel Base Flow Conditions? (Y/N): Date of last preceptation: Ob/05/18 Quantity: Photograph information: Sphotos Elevated Turbidity? (Y/N): N Canopy (% open): 100% Ware samples collected for water chemistry? (Y/N): N (Note lab sampling neach representative of the stream (Y/N) If not, please explain: Statuse from the comments/description of pollution impacts: If not, please explain: Additional comments/description of pollution impacts: If not, please explain: Comments: Norther? (Y/N) Aquatic Macrineer/def (Y/N) Voucher? (Y/N) Comments: Regarding Biology: Voucher? (Y/N) Aquatic Macrineer/def (Y/N) Voucher? (Y/N) Comments:						_
EWH Name: Distance from Evaluated Stream MAPPING: ATTACH COPES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION USGS Quadrangle Name Sclo Device Conditions? NRCS Soil Map Page: NRCS Soil Map Page: NRCS Soil Map Stream Order County: Harrison Township / City. MisCeLLANEOUS Date of last precipitation: 06/05/18 Quantity: 0.11 Photograph Information: By Potes Photograph Information: By Potes Elevated Turbidity? (V/N): N (Note lab sample no. or id. and attach results) Lab Number: Field Measures: Field Measures: Temp (*C) Disolved Oxygen (mg/t) pH (S U.) Conductivity (umhosticm) is the sampling reach representative of the stream (V/N) If not, please explain: Additional comments/description of pollution impacts:					0.04	mil
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION JSGS Quadrangie Name; Seio NRCS Soil Map Page; NRCS Soil Map Stream Order County: Harrison Township / City; Rumley MISCELLANEOUS Object 06/05/18 Quantity; 0.11 Photograph Information; 9 Photos 06/05/18 Quantity; 0.11 Photograph Information; 9 Photos 00% 0.11 0.11 Photos Canopy (% open): 100% 00% 0.11 0.11 Photos Canopy (% open): 100% 0.11 0.11 0.11 Photos Canopy (% open): 100% 0.11 0.11 0.11 Were samples collected for water chemistry? (V/N): N (Note lab sample no. or id. and attach results) Lab Number 0.11 State sampling reach representative of the stream (YN) If not, please explain: 0.00 0.00 Validitional comments/description of pollution impacts:						-
JSGS Quadrangle Name: Scio NRCS Sol Map Page: NRCS Sol Map Stream Order County: Itarritor Township / City: Rumley MISCELLANEOUS Saace Flow Conditions? (YN): Date of last precipitation: 06/05/18 Quantity: 0.11 Photograph Information: 3 photos 100% NRCs sol Map Stream Order 0.11 Photograph Information: 3 photos 100% NRCs sol Map Stream Order 0.11 Photograph Information: 3 photos 100% NRCs sol Map Stream Order 0.11 Photograph Information: 3 photos 100% NRCs sol Map Stream Order 0.11 Store samples collected for water chemistry? (YN) N Canopy (% open): 100% Wore samples collected for water chemistry? If NN (NN) (NN) Conductivity (µmhos/cm) 100% State sampling reach representative of the stream (YN) If not, please explain:					DCATION	
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Bise Flow Conditions? (Y/N): Date of last precipitation: 06/05/18 Quantity: 0.11 Photograph Information: 3 photos Elevated Turbidity? (Y/N): N Canopy (% open): 100% Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: Field Measures: Temp (*C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm) s the sampling reach representative of the stream (Y/N) If not, please explain:		Township / 0	City:Rumley			
See of volidious S(1/V) Set of has, production (1/V) Set of has the samples collected for water chemistry? (Y/N): Nere sam						
Elevated Turbidity? (Y/N): N	Base Flow Conditions? (Y/N): Y Date	of last precipitation: 06/	05/18 Quantity:	0.11		
Were samples collected for water chemistry? (YIN): N (Note lab sample no. or id. and attach results) Lab Number: ield Measures: Temp (*C) Dissolved Oxyger (mg/l) pH (S.U.) Conductivity (umhos/cm) at the sampling reach representative of the stream (Y/N) If not, please explain: Additional comments/description of pollution impacts: BIOTIC EVALUATION Performed? (Y/N): N (If Yes, Record at observations: Voucher collections optional. NO TE: all voucher samples must be labeled with the Doublet. Include appropriate field data sheets from the Primary Headwater Habital Assessment Manual) Trops or Tadpoles Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) N voucher? (Y/N) N voucher? (Y/N) N voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) N voucher? N	Photograph Information: 3 photos]
Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number: Field Measures: Temp (*C) Dissolved Oxyger (mg/l) Dissolved Oxyger (mg/l) PH (S.U.) Conductivity (umhos/cm) Conductivity (umhos/cm) Badditional comments/description of pollution impacts: Badditional comments/fee (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/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 no stive description of the stream's location FLOW Browned for Education (Stream) Browned for		nopy (% open): 100%				
Field Measures: Temp (*C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm) a the sampling reach representative of the stream (Y/N) If not, please explain: Additional comments/description of pollution impacts: BIOTIC EVALUATION Performed? (Y/N) If yes, Record all observations. Voucher collections optional. NOTE: all vouchers samples must be labeled with the Double'r. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Noucher? No		(Y/N): N (Note lab same	ple no. or id. and attach resu	ults) Lab Number:		
Additional comments/description of pollution impacts: BIOTIC EVALUATION Performed? (Y/N): N (I Yes, Record all observations. Voucher collections optional. NO TE: all voucher samples must be labeled with the Doubler. Include appropriate field data sheets from the Primary Headwater Habital Assessment Manual). Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) Comments Regarding Biology: 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 no failve description of the stream's location Figure For Webe Stream Completed (Marching Completed): Include Important landmarks and other features of Interest for site evaluation and a no failve description of the stream's location Figure For Webe Stream Completed (Marching Completed): Include Important landmarks and other features of Interest for site evaluation and a no failve description of the stream's location Figure For Webe Stream Completed (Marching Completed): Include Important Landmarks and other features of Interest for site evaluation and a no failve description of the stream's location Figure For Webe Stream Completed (Marching Completed): Include Important Landmarks and other features of Interest for site evaluation and a no failve description of the stream's location Figure For Webe Stream Completed (Marching Completed): Include Important Landmarks and other features of Interest for site evaluation and a no failve description of the stream's location Figure For Webe Stream Completed (Marching Completed): Include Important Landmarks and other features of Interest for site evaluation and a no failve description of the stream's location Figure For Webe Stream Completed (Marching Completed): Figure For Webe Stream Completed (Marching Completed): Figure For Web Stream Completed (Marching Completed)			pH (S.U.) Condu	uctivity (µmhos/cm)		
Additional comments/description of pollution impacts: BIOTIC EVALUATION Performed? (Y/N): (I Yes, Record all observations. Voucher collections optional. NO TE: all voucher samples must be labeled with the iD number. Include appropriate field data sheets from the Primary Headwater Habital Assessment Manual). Fish Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This <u>must</u> be completed): Include Important landmarks and other features of interest for site evaluation and a no failve description of the stream's location For evaluation and a no failve description of the stream's location (I/IN)	s the sampling reach representative of the str	ream (Y/N)	e explain:			
BIOTIC EVALUATION Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/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 no ative description of the stream's location FLIOW Important landmarks and other features of interest for site evaluation and a no ative description of the stream's location Think ROW Edge Important landmarks and other features of interest for site evaluation and a no ative description of the stream's location Think ROW Edge Important landmarks and other features of interest for site evaluation and a no ative description of the stream's location Think ROW Edge Important landmarks and other features of interest for site evaluation and a no ative description of the stream's location Think ROW Edge Important landmarks and other features of interest for site evaluation and a no ative description of the stream's location Think ROW Edge Important landmarks and other features of interest for site evaluation and a no ative description of the stream's location Think ROW Edge Important landmarks and other features of interest for site evaluation and a no ative description of the stream's location Think ROW Edge Important landmarks and other features of interest for site evaluation and a no ative description of the stream's location Think ROW Edge Important landmarks and other features of interest for site evaluation and a no ative description of the stream's location of the stream's location of the stream's location of the stream's location of the stream's loc						
BIOTIC EVALUATION Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/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 no ative description of the stream's location FLOW Important landmarks and other features of interest for site evaluation and a no ative description of the stream's location There ROW Edge Important landmarks and other features of interest for site evaluation and a no ative description of the stream's location There ROW Edge Important landmarks and other features of interest for site evaluation and a no ative description of the stream's location There ROW Edge Important landmarks and other features of interest for site evaluation and a no ative description of the stream's location There ROW Edge Important landmarks and other features of interest for site evaluation and a no ative description of the stream's location There ROW Edge Important landmarks and other features of interest for site evaluation and a no ative description of the stream's location There ROW Edge Important landmarks and other features of interest for site evaluation and a no ative description of the stream's location There ROW Edge Important landmarks and other features of interest for site evaluation and a no ative description of the stream's location There ROW Edge Important landmarks and the rest for site evaluation and a no ative description of the stream's location of the stream	Additional comments/description of pollution i	impacts:				
Performed? (Y/N) (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) N Voucher? (Y/N)						
Include important landmarks and other features of interest for site evaluation and a nr ative description of the stream's location some some some T-Line ROW Edge sope	Fish Observed? (Y/N) N Voucher? (Y/N	N) N Salamanders Observe	ed? (Y/N) Voucher?	(Y/N) N	N	
FLOW T-Line ROW Edge					-	
T-Line ROW Edge	· · · · · · · · · · · · · · · · · · ·		evaluation and a na value of	description of the strear	n's locatio	n
V T-Line ROW Edge		s-mdt-6/7/:	20108-05		T-Line R DW	' Edge
		•				
PHWH Form Page - 2						

Stream PB-20)
ChieFPA Primary Headwater Habitat Evaluation Form 45	1
HHEI Score (sum of metrics 1, 2, 3) :	<u> </u>
SITE NAME/LOCATION FirstEnergy Holloway-Knox 138kV Transmission Line Field ID: s-bao-06/11/2018-0	5
SITE NUMBER PB-20 RIVER BASIN 05040001 DRAINAGE AREA (mi²) 0.06	
LENGTH OF STREAM REACH (ft) 112 LAT. 40.36798 LONG81.05310 RIVER CODE RIVER MILE DATE 06/11/18 SCORER MDT, BAO COMMENTS Intermittent flow regime	_
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction	ns
STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY	
MODIFICATIONS: ripari impact due to ROW; culvert	T
1. SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes	
TYPE DERCENT TYPE DERCENT ME	HEI etric
BLDR SLABS [16 pts] 0% SILT [3 pt] 20% PO	ints
BEDROCK [16 pt] 0% FINE DETRITUS [3 pts] 0% Subs	strate (= 40
COBBLE (65-256 mm) [12 pts] 30% CLAY or HARDPAN [0 pt]	. = 40
Image: Constraint of the second state of the second sta	5
Total of Percentages of 30.00% (A) Substrate Percentage 100% (B) A +	⊢ B
Bldr Slabs, Boulder, Cobble, Bedrock Check Check TOTAL NUMBER OF SUBSTRATE TYPES: 4	
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool	Depth
	c = 30
> 22.5 - 30 cm [30 pts] < 5 cm [5 pts]	_
> 10 - 22.5 cm [25 pts]	5
COMMENTS MAXIMUM POOL DEPTH Inches 3	
	nkfull idth
	x=30
COMMENTS Ohwm	
This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream ☆	
RIPARIAN WIDTH FLOODPLAIN QUALITY	
L R (Per Bank) L R (Most Predominant per Bank) L R Wide >10m Mature Forest, Wetland Conservation Tillage	
Moderate 5-10m	
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 Moist Channel, isolated pools, no flow (Intermittent)	
Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral) COMMENTS intermittent	
None 1.0 2.0 3.0 0.5 7 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)	

ADDITIONAL STREAM INFORMATION (This Information Must Also	be Completed):
QHEI PERFORMED? - Yes V No QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S) WWH Name: CWH Name: EWH Name:	Distance from Evaluated Stream 1.05 Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE EN	TIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: Jewett	NRCS Soil Map Page: NRCS Soil Map Stream Order
	hip / City:Rumley
MISCELLANEOUS	
Base Flow Conditions? (Y/N):_Y Date of last precipitation:	06/11/18 Quantity: 0.47
Photograph Information: 3 photos	
Elevated Turbidity? (Y/N): N Canopy (% open): 100°	%
Were samples collected for water chemistry? (Y/N): _N (Note lab	sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) Y If not,	please explain:
Additional comments/description of pollution impacts:	
ID number. Include appropriate field data Fish Observed? (Y/N) N Voucher? (Y/N) Salamanders O	r collections optional. NOTE: all voucher samples must be labeled with the site sheets from the Primary Headwater Habitat Assessment Manual) bserved? (Y/N) N Voucher? (Y/N) N ic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N)
DRAWING AND NARRATIVE DESCRIPTION	OF STREAM REACH (This <u>must</u> be completed):
N N	site evaluation and a narrative description of the stream's location hillslope Culvert
FLOW	B-05 slope T-Line ROW Edge
PHWH F October 24, 2002 Revision	Form Page - 2 Save as pdf Reset Form

Stream PB-21	
ChieEPA Primary Headwater Habitat Evaluation Form 39	
HHEI Score (sum of metrics 1, 2, 3) :	
SITE NAME/LOCATION FirstEnergy Holloway-Knox 138kV Transmission Line Field ID: s-bao-06/11/2018-04	4
SITE NUMBER PB-21 RIVER BASIN 05040001 DRAINAGE AREA (mi²) 0.10	
LENGTH OF STREAM REACH (ft) 135 LAT. 40.36397 LONG. -81.05269 RIVER CODE RIVER MILE DATE 06/11/18 SCORER MDT, BAO COMMENTS Intermittent flow regime	_
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction	
STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY MODIFICATIONS:	Y
1. SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes	
	HEI etric
BLDR SLABS [16 pts] 0% SILT [3 pt] 20% Poi	ints
BEDROCK 16 pt 0% LIL FINE DETRITUS 13 pts 07	strate
COBBLE (65-256 mm) [12 pts] 10% CLAY or HARDPAN [0 pt] 0%	x = 40
Image: GRAVEL (2-64 mm) [9 pts] 40% Image: MUCK [0 pts] 0% Image: GRAVEL (2-64 mm) [6 pts] 30% Image: GRAVEL (2-64 mm) [6 pts] 0% Image: GRAVEL (2-64 mm) [6 pts] 30% Image: GRAVEL (2-64 mm) [6 pts] 0% Image: GRAVEL (2-64 mm) [6 pts] 30% Image: GRAVEL (2-64 mm) [6 pts] 0% Image: GRAVEL (2-64 mm) [6 pts] 30% Image: GRAVEL (2-64 mm) [6 pts] 0%	9
Total of Percentages of (A) (A) Substrate Percentage (B)	
Bldr Slabs, Boulder, Cobble, Bedrock TOUCH A + TOTAL NUMBER OF SUBSTRATE TYPES: 4	. Б
	Depth
evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):	x = 30
> 30 centimeters [20 pts] ✓ > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] ✓ < 5 cm [5 pts]	
> 10 - 22.5 cm [25 pts]	5
COMMENTS MAXIMUM POOL DEPTH	
	nkfull dth
= 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	k=30
> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	
COMMENTS ohwm AVERAGE BANKFULL WIDTH Feet 2.00 5	
This information <u>must</u> also be completed	_
RIPARIAN ZONE AND FLOODPLAIN QUALITY SNOTE: River Left (L) and Right (R) as looking downstream SRIPARIAN WIDTH FLOODPLAIN QUALITY	
L R (Per Bank) L R (Most Predominant per Bank) L R	
Wide >10m Mature Forest, Wetland Conservation Tillage Moderate 5-10m Mature Forest, Shrub or Old Urban or Industrial	
Image: Answer of the second	
None Image: Residential, Park, New Field Image: Residential, Park, New Field Image: Residential, Park, New Field Image: Residential, Park, New Field Image: Residential, Park, New Field Image: Residential, Park, New Field Image: Residential, Park, New Field Image: Residential, Park, New Field Image: Residential, Park, New Field Image: Residential, Park, New Field Image: Residential, Park, New Field Image: Residential, Park, New Field	
COMMENTS	
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)	
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) Severe (10 ft/100 ft)	

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):
QHEI PERFORMED? - Yes Vo QHEI Score (If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)
WWH Name: Headwaters Middle Conotton Creek Distance from Evaluated Stream niles
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: NRCS Soil Map Stream Order
County: Harrison Township / City: Rumley
MISCELLANEOUS
Base Flow Conditions? (Y/N): Y _ Date of last precipitation: 06/11/18 _ Quantity: 0.47
Photograph Information: 3 photos
Elevated Turbidity? (Y/N): N Canopy (% open): 100%
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain:
Additional comments/description of pollution impacts:
Performed? (Y/N): (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 Salamanders Observed? (Y/N) N Voucher? (
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This <u>must</u> be completed): Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location
NA hillslope wetland pond
FLOW Contraction of the state o
PHWH Form Page - 2
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Stream PB-22	2
ChieEPA Primary Headwater Habitat Evaluation Form 39	1
HHEI Score (sum of metrics 1, 2, 3) :	
SITE NAME/LOCATION FirstEnergy Holloway-Knox 138kV Transmission Line Field ID: s-bao-06/11/2018-0	3
LENGTH OF STREAM REACH (ft) 32 LAT. 40.36090 LONG. -81.05223 RIVER CODE RIVER MILE DATE 06/11/18 SCORER MDT, BAO COMMENTS Intermittent flow regime	=
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction	ns
STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVER	
MODIFICATIONS: pasture impact	1
1. SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes	
	HEI
BLDR SLABS [16 pts] 0% SILT [3 pt] 20% PO	ints
III BEDROCK 16 pt 0% LI EINE DETRUUS 13 pts 0%	strate
COBBLE (65-256 mm) [12 pts] 10% CLAY or HARDPAN [0 pt] 0%	< = 40
✓ GRAVEL (2-64 mm) [9 pts] 40% □ MUCK [0 pts] 0% ✓ SAND (<2 mm) [6 pts]	9
Total of Percentages of (A) Substrate Percentage (B)	
Bldr Slabs, Boulder, Cobble, Bedrock TOLOU% (X) TOTAL NUMBER OF SUBSTRATE TYPES: 4	
	Depth
evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):	c = 30
> 30 centimeters [20 pts] ✓ > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] ✓ > 5 cm [5 pts]	
> 10 - 22.5 cm [25 pts]	5
COMMENTSMAXIMUM POOL DEPTH Inches 4	
	nkfull
= 3.0 m (<=3'3'') [5 pts]	idth x=30
> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	
COMMENTS Ohwm AVERAGE BANKFULL WIDTH Feet : 2.00 COMMENTS	5
This information must also be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY	
RIPARIAN WIDTH FLOODPLAIN QUALITY L_R (Per Bank) L_R (Most Predominant per Bank) L_R	
Wide >10m Mature Forest, Wetland Conservation Tillage	
Moderate 5-10m Field Urban or Industrial	
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 ephemeral	
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	
STREAM GRADIENT ESTIMATE Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)	

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: Headwaters Middle Conotton Creek Distance from Evaluated Stream miles
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: Jewett NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Harrison Township / City: Archer
MISCELLANEOUS
Base Flow Conditions? (Y/N):_Y Date of last precipitation:06/11/18 Quantity:0.47
Photograph Information: 3 photos
Elevated Turbidity? (Y/N): N Canopy (% open): 100%
Were samples collected for water chemistry? (Y/N): _ (Note lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain:
Additional comments/description of pollution impacts:
Performed? (Y/N):N (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 Vo
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This <u>must</u> be completed): Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location
N hh-bao-5/11/2018-03 o pond
FLOW T-Line ROW Edge
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Stream PB-23	
ChieEPA Primary Headwater Habitat Evaluation Form 17	
HHEI Score (sum of metrics 1, 2, 3) :	_
SITE NAME/LOCATION FirstEnergy Holloway-Knox 138kV Transmission Line Field ID: s-bao-06/11/2018-02	Ī
SITE NUMBER PB-23 RIVER BASIN 05040001 DRAINAGE AREA (mi²) 0.01	4
LENGTH OF STREAM REACH (ft) 104 LAT. 40.36040 LONG. -81.05230 RIVER CODE RIVER MILE DATE 06/11/18 SCORER MDT, BAO COMMENTS Ephemeral flow regime	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions	_
STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY MODIFICATIONS: pasture impact	
1. SUBSTRATE (Estimate percent of every type of substrate 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.	
BLDR SLABS [16 pts] 0% SILT [3 pt] 55% Poin	
BOULDER (>256 mm) [16 pts] 0% LEAF PACK/WOODY DEBRIS [3 pts] 0% BEDROCK [16 pt] 0% Image: Fine Detritues [3 pts] 0% Substration of the second seco	
COBBLE (65-256 mm) [12 pts] 10% CLAY or HARDPAN [0 pt] 20%	40
GRAVEL (2-64 mm) [9 pts] 15% MUCK [0 pts] 0% SAND (<2 mm) [6 pts]	
Total of Percentages of (A) Substrate Percentage (B)	
Bldr Slabs, Boulder, Cobble, Bedrock TOLOU% (X) TOTAL NUMBER OF SUBSTRATE TYPES: 3	
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): Pool Depth (Max = 1000 ft)	-
 > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 5 cm - 10 cm [15 pts] < 5 cm [5 pts] 	_
> 10 - 22.5 cm [25 pts]	
COMMENTS MAXIMUM POOL DEPTH Inches 1	
3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bankf	
> 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Width > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] \checkmark \le 1.0 m (<=3' 3") [5 pts]	
> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	7
COMMENTS ohwm AVERAGE BANKFULL WIDTH Feet 1. 1.50 5	
This information must also be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY	
RIPARIAN WIDTH FLOODPLAIN QUALITY L_R (Per Bank) L_R (Most Predominant per Bank) L_R	
Wide >10m Mature Forest, Wetland Conservation Tillage	
Moderate 5-10m III miniature Foldst, official of old III Urban or Industrial Field Open Pasture, Row Crop	
None Fenced Pasture Mining or Construction COMMENTS row	
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 ephemeral	
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	
STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft) Flat to Moderate Image: Moderate (2 ft/100 ft) Image: Moderate to Severe Image: Severe (10 ft/100 ft)	

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed	<u>):</u>
QHEI PERFORMED? - Yes V No QHEI Score (If Yes, A	Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name: Headwaters Middle Conotton Creek	Distance from Evaluated Stream 1.20 miles
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSH	HED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: Jewett NRCS Soil Ma	p Page: NRCS Soil Map Stream Order
County: Harrison Township / City: Arc	her
MISCELLANEOUS	
Base Flow Conditions? (Y/N):Y Date of last precipitation:06/11/18	Quantity: 0.47
Photograph Information: 3 photos	
Elevated Turbidity? (Y/N): N Canopy (% open): 100%	
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or i	id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mq/l) pH (S.U.)	Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain:	
Additional comments/description of pollution impacts:	
ID number. Include appropriate field data sheets from the Fish Observed? (Y/N) N Voucher? (Y/N) N	
DRAWING AND NARRATIVE DESCRIPTION OF STREAM	
Include important landmarks and other features of interest for site evaluation	and a narrative description of the stream's location
pasture	
	© wooded
hh-bao-5/11/2018-02	
Slope	T-Line ROW Edge
I	I
BUWH Form Pogo 2	

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Save as pdf

Reset Form

Stream PB-24	
ChieEPA Primary Headwater Habitat Evaluation Form 17	
HHEI Score (sum of metrics 1, 2, 3) :	
SITE NAME/LOCATION FirstEnergy Holloway-Knox 138kV Transmission Line Field ID: s-bao-06/11/2018-01]
SITE NUMBER PB-24 RIVER BASIN 05040001 DRAINAGE AREA (mi ²) 0.01	4
LENGTH OF STREAM REACH (ft) 98 LAT. 40.35998 LONG. -81.05213 RIVER CODE RIVER MILE DATE 06/11/18 SCORER MDT, BAO COMMENTS Ephemeral flow regime	f
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions	
STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY	
MODIFICATIONS: culvert and pasture impact	
1. SUBSTRATE (Estimate percent of every type of substrate 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	ric
BLDR SLABS [16 pts] 0% SILT [3 pt] 55% POINT	ts
BEDROCK [16 pt] 0% III FINE DETRITUS [3 pts] 0% Substra	
$\square \square COBBLE (65-256 mm) [12 pts] \qquad \boxed{10\%} \qquad \boxed{\square} \square CLAY \text{ or HARDPAN } [0 pt] \qquad \boxed{20\%} \qquad \boxed{Max = 4}$	40
GRAVEL (2-64 mm) [9 pts] 15% MUCK [0 pts] 0% 7 SAND (<2 mm) [6 pts]	
Total of Percentages of 10.00% (A) Substrate Percentage 100% (B) A + B	
Bldr Slabs, Boulder, Cobble, Bedrock Check Check TOTAL NUMBER OF SUBSTRATE TYPES: 3	
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool Depth	enth
evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max =	-
> 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] ✓	
> 10 - 22.5 cm [25 pts]	
3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bankfu > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Width	
= 3.0 m (> 3.0 m (> 9' 7" - 13') [25 pts] $ = 3.0 m (> 9' 7" - 4' 8") [20 pts] $ $ = 1.0 m (<=3' 3") [5 pts] $ $ = 1.0 m (<=3' 3") [5 pts]$	
COMMENTS ohwm AVERAGE BANKFULL WIDTH Feet 1. 1.00 5	
This information <u>must</u> also be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY ANOTE: River Left (L) and Right (R) as looking downstream A RIPARIAN WIDTH FLOODPLAIN QUALITY	
L R (Per Bank) L R (Most Predominant per Bank) L R	
Wide >10m Mature Forest, Wetland Conservation Tillage	
Image: Marrow <5m	
COMMENTS row	
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 ephemeral	
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)	

ADDITIONAL STREAM INFORMATION (This Information Must Also	o be Completed):		
QHEI PERFORMED? - Yes 🖌 No QHEI Score	(If Yes, Attac	ch Completed QHEI Form)	
DOWNSTREAM DESIGNATED USE(S)			
WWH Name: Headwaters Middle Conotton Creek		_ Distance from Evaluated St	ream 1.22 miles
		Distance from Evaluated Str	
EWH Name:		Distance from Evaluated Str	eam
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE E	NTIRE WATERSHED	AREA. CLEARLY MARK THE	SITE LOCATION
USGS Quadrangle Name: Jewett	NRCS Soil Map Pa	age: NRCS Soil Map	Stream Order
County: Harrison Town	ship / City:Archer		
MISCELLANEOUS			
Base Flow Conditions? (Y/N): Date of last precipitation: _	06/11/18	Quantity: 0.47	
Photograph Information: 3 photos			
Elevated Turbidity? (Y/N): N Canopy (% open): 100)%		
Were samples collected for water chemistry? (Y/N): _N (Note la	ab sample no. or id. a	nd attach results) Lab Numbe	r:
Field Measures: Temp (°C) Dissolved Oxygen (mq/l)	pH (S.U.)	Conductivity (µmhos/c	:m)
Is the sampling reach representative of the stream (Y/N) If not	t, please explain:		
Additional comments/description of pollution impacts:			
BIOTIC EVALUATION			
Performed? (Y/N): N (If Yes, Record all observations. Voucher ID number. Include appropriate field dat Fish Observed? (Y/N) Voucher? (Y/N) Salamanders O Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aqua Comments Regarding Biology:	ta sheets from the Prin Observed? (Y/N)	nary Headwater Habitat Assess Voucher? (Y/N)	
DRAWING AND NARRATIVE DESCRIPTION	OF STREAM R	EACH (This <u>must</u> be co	ompleted):
Include important landmarks and other features of interest for	or site evaluation and	d a narrative description of th	e stre m's location
slope			
		wooded	
		Wooded	
hh-bao-5/11/20	018-01		
FLOW 🔫			
pasture			
	slope		
T-Line ROW Edge			
			T-Line ROV Edge
1			I
	Form Page - 2		
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Stream PB-25	
ChieFPA Primary Headwater Habitat Evaluation Form 25	
HHEI Score (sum of metrics 1, 2, 3) :	
SITE NAME/LOCATION FirstEnergy Holloway-Knox 138kV Transmission Line Field ID: s-bao-06/11/2018-07]
SITE NUMBER PB-25 RIVER BASIN 05040001 DRAINAGE AREA (mi²) 0.01	4
LENGTH OF STREAM REACH (ft) 199 LAT. 40.35764 LONG81.05208 RIVER CODE RIVER MILE DATE 06/11/18 SCORER MDT, BAO COMMENTS Ephemeral flow regime	4
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions	
STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY	
MODIFICATIONS:	
1. SUBSTRATE (Estimate percent of every type of substrate 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	ric
BLDR SLABS [16 pts] 0% SILT [3 pt] 70% POIN	its
BEDROCK [16 pt] 0% Substr	
$\square \square COBBLE (65-256 mm) [12 pts] \qquad \boxed{0\%} \qquad \boxed{\square} \square CLAY or HARDPAN [0 pt] \qquad \boxed{0\%} \qquad \boxed{\square} \square CLAY or HARDPAN [0 pt] \qquad \boxed{0\%} \qquad \boxed{\square} \square \square DMUCK [0 pts] \qquad \boxed{0\%} \qquad \boxed{\square} \square \square DMUCK [0 pts] \qquad \boxed{0\%} \qquad \boxed{\square} \square \square DMUCK [0 pts] \qquad \boxed{0\%} \qquad \boxed{\square} \square \square DMUCK [0 pts] \qquad \boxed{0\%} \qquad \boxed{\square} \square DMUCK [0 pts] \qquad \boxed{\square} \square \square DMUCK [0 pts] \qquad \boxed{\square} \square DMUCK [$: 40
GRAVEL (2-64 mm) [9 pts] 20% MUCK [0 pts] 0% SAND (<2 mm) [6 pts]	
Total of Percentages of 0.00% (A) Substrate Percentage 100% (B) A + B]
Bldr Slabs, Boulder, Cobble, Bedrock	-
2. Maximum Pool Depth (<i>Measure the maximum pool depth within the 61 meter (200 ft</i>) evaluation reach at the time of Pool Depth	epth
evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max =	-
> 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] < 5 cm [5 pts]	
> 10 - 22.5 cm [25 pts]	
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] Widt	
= 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] $ = 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] $ $ = 1.0 m (<=3' 3") [5 pts] $ $ = 1.0 m (<=3' 3") [5 pts] $ $ = 1.0 m (<=3' 3") [5 pts]$	
COMMENTS Ohwm AVERAGE BANKFULL WIDTH Feet 1.00 5	
This information <u>must</u> also be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY ANOTE: River Left (L) and Right (R) as looking downstream RIPARIAN WIDTH FLOODPLAIN QUALITY	
L R (Per Bank) L R (Most Predominant per Bank) L R Wide >10m Mature Forest, Wetland Conservation Tillage	
Moderate 5-10m Immature Forest, Shrub or Old 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 Moist Channel, isolated pools, no flow (Intermittent)	
Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral)	
SINUOSITY (Number of ben <u>ds per 61 m (200 ft) of channel) (C</u> heck ONLY one box):	
None 1.0 2.0 3.0	
STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Severe (10 ft/100 ft)	

QHEI PERFORMED? - Yes Ves No QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name: Clear Fork	Distance from Evaluated Stream >2 miles Distance from Evaluated Stream
CWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIF	RE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: Jewett N	RCS Soil Map Page: NRCS Soil Map Stream Order
County: Harrison Township	o / City: Archer
MISCELLANEOUS	
Base Flow Conditions? (Y/N):Y Date of last precipitation:0	6/11/18 Quantity: 0.47
Photograph Information: 3 photos	
Elevated Turbidity? (Y/N): N Canopy (% open): 100%	
Were samples collected for water chemistry? (Y/N): (Note lab sa	ample no. or id. and attach results) Lab Number:
	pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, ple	ease explain:
Additional comments/description of pollution impacts:	
ID number. Include appropriate field data sh Fish Observed? (Y/N) N Voucher? (Y/N) Salamanders Observed?	Macroinvertebrates Observed? (Y/N)
Include important landmarks and other features of interest for si	te evaluation and a narrative description of the stream's location
N A	ag hillslope wooded
FLOW	wetland
T-Line ROW Edge	slope T-Line ROW Edge
PHWH For October 24, 2002 Revision	m Page - 2 Save as pdf Reset Form

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

Stream PB-26]
ChieFPA Primary Headwater Habitat Evaluation Form 26	
HHEI Score (sum of metrics 1, 2, 3) :	
SITE NAME/LOCATION FirstEnergy Holloway-Knox 138kV Transmission Line Field ID: s-bao-06/11/2018-00	6
SITE NUMBER PB-26 RIVER BASIN 05040001 DRAINAGE AREA (mi²) 0.01	
LENGTH OF STREAM REACH (ft) 112 LAT. 40.35629 LONG81.05225 RIVER CODE RIVER MILE DATE 06/11/18 SCORER MDT, BAO COMMENTS Ephemeral flow regime	_
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction	
STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY	
MODIFICATIONS:	
1. SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes	
	IEI tric
BLDR SLABS [16 pts] 0% SILT [3 pt] 45% POI	nts
BEDROCK [16 pt] 5% FINE DETRITUS [3 pts] 0%	strate
COBBLE (65-256 mm) [12 pts] 0% CLAY or HARDPAN [0 pt] 0%	= 40
GRAVEL (2-64 mm) [9 pts] 40% MUCK [0 pts] 0% SAND (<2 mm) [6 pts]	6
Total of Percentages of 5 00% (A) Substrate Percentage 100% (B)	B
Bldr Slabs, Boulder, Cobble, Bedrock 0.0078 TOTAL NUMBER OF SUBSTRATE TYPES: 4	_
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool	Depth
evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):	= 30
> 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] < 5 cm [5 pts]	
> 10 - 22.5 cm [25 pts]	'
3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Ban > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Wid	kfull dth
= 3.0 m - 4.0 m (> 9' 7'' - 13') [25 pts] $ = 3.0 m - 4.0 m (> 9' 7'' - 13') [25 pts] $ $ = 1.0 m (<=3' 3'') [5 pts] $ $ = 1.0 m (<=3' 3'') [5 pts]$	
COMMENTS Ohwm AVERAGE BANKFULL WIDTH Feet 1.00 5	
RIPARIAN ZONE AND FLOODPLAIN QUALITY \$\frac{1}{2}\$ NOTE: River Left (L) and Right (R) as looking downstream RIPARIAN WIDTH FLOODPLAIN QUALITY	
L R (Per Bank) L R (Most Predominant per Bank) L R Wide >10m Mature Forest, Wetland Conservation Tillage	
Moderate 5-10m Immature Forest, Shrub or Old 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 Moist Channel, isolated pools, no flow (Intermittent)	
Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral)	
SINUOSITY (Number of ben <u>ds per 61 m (200 ft) of channel) (Check ONLY one box):</u>	
None 1.0 2.0 3.0 0.5 7 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 (10 ft/100 ft)	

QHEI PERFORMED? - Yes V No QHEI Score (If	Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name: Clear Fork	Distance from Evaluated Stream >2 miles
	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WAT	TERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: Jewett NRCS Second	oil Map Page: NRCS Soil Map Stream Order
County: Harrison Township / City:	Archer
MISCELLANEOUS Base Flow Conditions? (Y/N):_Y Date of last precipitation:06/11/1	18 Quantity: 0.47
	18 Quantity: U.47
Photograph Information: _3 photos	
Elevated Turbidity? (Y/N): _ Canopy (% open): _ 100%	
Were samples collected for water chemistry? (Y/N): (Note lab sample n	no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH	(S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please ex	plain:
	· · · · · · · · · · · · · · · · · · ·
Additional comments/description of pollution impacts:	
	s optional. NOTE: all voucher samples must be labeled with the site om the Primary Headwater Habitat Assessment Manual) (Y/N) N Voucher? (Y/N) N overtebrates Observed? (Y/N) N Voucher? (Y/N) N
DRAWING AND NARRATIVE DESCRIPTION OF STR Include important landmarks and other features of interest for site evalues of interest for site evalues of the state of	· <u> </u>
NŢ	wetland
FLOW	loge T-Line ROV Edge
	1
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ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

Stream PB	-27
ChieEPA Primary Headwater Habitat Evaluation Form	2
HHEI Score (sum of metrics 1, 2, 3) :	2
SITE NAME/LOCATION FirstEnergy Holloway-Knox 138kV Transmission Line Field ID: s-mdt-06/12/20	18-01
SITE NUMBER PB-27 RIVER BASIN 05040001 DRAINAGE AREA (mi²) 0.0)1
LENGTH OF STREAM REACH (ft) 120 LAT. 40.35130 LONG81.05285 RIVER CODE RIVER MILE	
DATE 06/12/18 SCORER MDT, BAO COMMENTS ephemeral flow regime	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruct	
STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECO MODIFICATIONS: Infommelized to flow between as fields	VERY
SUBSTRATE (Estimate percent of every type of substrate 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.	HHEI
TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] 0% ✓ SILT [3 pt] 15%	Metric Points
BOULDER (>256 mm) [16 pts] 0% LEAF PACK/WOODY DEBRIS [3 pts] 0%	Substrate
BEDROCK [16 pt] 0% FINE DETRITUS [3 pts] 0% COBBLE (65-256 mm) [12 pts] 5% CLAY or HARDPAN [0 pt] 75%	Max = 40
GRAVEL (2-64 mm) [9 pts] 5% MUCK [0 pts] 0%	7
SAND (<2 mm) [6 pts] 0% ARTIFICIAL [3 pts] 0%	7
Total of Percentages of 5.00% (A) Substrate Percentage 100% (B)	A + B
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3 TOTAL NUMBER OF SUBSTRATE TYPES: 4	
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of	Pool Depth
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]	Max = 30
> 22.5 - 30 cm [30 pts] < 5 cm [5 pts]	
> 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts]	0
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]	Bankfull Width
$ = 3.0 \text{ m} - 4.0 \text{ m} (> 9' 7'' - 13') [25 \text{ pts}] $ $ \leq 1.0 \text{ m} (<=3' 3'') [5 \text{ pts}] $	Max=30
> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	_
COMMENTS AVERAGE BANKFULL WIDTH Feet : 2.00	5
This information must also be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY	
RIPARIAN WIDTH FLOODPLAIN QUALITY L_R (Per Bank) L_R (Most Predominant per Bank) L_R	
Wide >10m Mature Forest, Wetland Conservation Tillage Immature Forest, Shrub or Old Immature Forest, Shrub or Old Immature Forest, Shrub or Old	
Field Field	
Narrow <5m Residential, Park, New Field Open Pasture, Row Crop	
None Fenced Pasture Mining or Construction	
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)	
SINUOSITY (Number of ben <u>ds</u> 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)

ADDITIONAL STREAM INFORMATION (This Information	Must Also be Completed):
QHEI PERFORMED? - Yes 🗸 No QHEI So	core (If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name: Clear Fork	Distance from Evaluated Stream 1.70 m
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
	NG THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: Jewett	NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Harrison	Township / City:
MISCELLANEOUS	
Base Flow Conditions? (Y/N):Y Date of last precipita	ation: 06/11/18 Quantity: 0.47
Photograph Information: 2 photos	
Elevated Turbidity? (Y/N): _ N Canopy (% open):	. 100%
Were samples collected for water chemistry? (Y/N):	_ (Note lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (r	ma/l) pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N)	If not, please explain:
Additional comments/description of pollution impacts:	
ID number. Include appropriat Fish Observed? (Y/N)	ns. Voucher collections optional. NOTE: all voucher samples must be labeled with the sinte field data sheets from the Primary Headwater Habitat Assessment Manual) manders Observed? (Y/N) N Voucher? (Y/N) N Vou
DRAWING AND NARRATIVE DESCR	RIPTION OF STREAM REACH (This <u>must</u> be completed):
	interest for site evaluation and a narrative description of the stream's location
slope	soybean field
	s-mdt-6/12/20108-01
	S-11101-0/12/20106-01
FLOW	
	T-Line RDW Edge
	7
Slope	
	soybean field
I	
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	Stream PB-28
ChieEPA Primary Headwater H	Habitat Evaluation Form 61
	HHEI Score (sum of metrics 1, 2, 3) :
SITE NAME/LOCATION FirstEnergy Holloway-Knox 138kV	
	BASIN 05040001 DRAINAGE AREA (mi ²) 0.34
LENGTH OF STREAM REACH (ft) 337 LAT. 40.34373 L DATE 06/12/18 SCORER MDT, BAO COMMENTS	ONG81.05501 RIVER CODE RIVER MILE
	valuation Manual for Ohio's PHWH Streams" for Instructions
·	
STREAM CHANNEL NONE / NATURAL CHANNEL MODIFICATIONS: Transmission line ROW	
1. SUBSTRATE (Estimate percent of every type of substrate p	resent. Check ONLY two predominant substrate TYPE boxes
(Max of 32). Add total number of significant substrate types fou	nd (Max of 8). Final metric score is sum of boxes A & B.
TYPE PERCENT TYPE BLDR SLABS [16 pts] 0% 1	SILT [3 pt] Points
BOULDER (>256 mm) [16 pts] <u>0%</u> BEDROCK [16 pt] 0%	LEAF PACK/WOODY DEBRIS [3 pts] 0% FINE DETRITUS [3 pts] 0%
COBBLE (65-256 mm) [12 pts]	CLAY or HARDPAN [0 pt]
✓ GRAVEL (2-64 mm) [9 pts] 65% ✓ ✓ SAND (<2 mm) [6 pts]	MUCK [0 pts] 0% 16
Bldr Slabs, Boulder, Cobble, Bedrock	Check 100%
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 12	
2. Maximum Pool Depth (Measure the maximum pool depth we evaluation. Avoid plunge pools from road culverts or storm wate	
> 30 centimeters [20 pts] 22.5 - 30 cm [30 pts]	> 5 cm - 10 cm [15 pts] < 5 cm [5 pts]
> 10 - 22.5 cm [25 pts]	NO WATER OR MOIST CHANNEL [0 pts] 30
COMMENTS	MAXIMUM POOL DEPTH Inches 10
3 BANK FULL WIDTH (Measured as the average of 3-4 measured as the average of 3-4 measure	
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	✓ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Width ≤ 1.0 m (<=3' 3") [5 pts]
> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	
COMMENTS	AVERAGE BANKFULL WIDTH Feet : 4.00 15
This informa	
RIPARIAN ZONE AND FLOODPLAIN QUALITY 🛛 🖄	t ion <u>must</u> also be completed rNOTE: River Left (L) and Right (R) as looking downstream☆
RIPARIAN WIDTH FLOODPLAIN QUA _L_R (Per Bank) L_R (Most Pre	<u>∖LTY</u> edominant per Bank) <u>L_R</u>
	orest, Wetland Conservation Tillage
Moderate 5-10m	
	al, Park, New Field Open Pasture, Row Crop
COMMENTS row	Pasture Mining or Construction
FLOW REGIME (At Time of Evaluation) (Check ONLY	∕one <u>box</u>):
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 char	
None 1.0 0.5 ✓ 1.5	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100	0 ft) Moderate to Severe (10 ft/100 ft)

	ATED USE(S)		Г	4.00
WWH Name: Clear Fork	······································		tance from Evaluated Stream	1.02
CWH Name:			ance from Evaluated Stream _	
	ES OF MAPS, INCLUDING THE <u>E</u>	1 г		Г
USGS Quadrangle Name: Jewett		NRCS Soil Map Page:	NRCS Soil Map Strear	n Order _
County: Harrison	Town	ship / City: Archer		
MISCELLANEOUS	1			
Base Flow Conditions? (Y/N):_Y	_ Date of last precipitation:	06/11/18	Quantity: 0.47	
Photograph Information: 3 photos				
Elevated Turbidity? (Y/N): _	Canopy (% open): 100	1%		
Were samples collected for water ch	emistry? (Y/N): N (Note la	b sample no or id and at	tach results) Lab Number:	
		pH (S.U.)	Conductivity (µmhos/cm)	
Field Measures: Temp (°C)	Dissolved Oxygen (mg/l)	PH (S.U.)		
Is the sampling reach representative	of the stream (Y/N)	t, please explain:		
Additional comments/description of	oollution impacts:			
BIOTIC EVALUATION				
N				
	es, Record all observations. Vouche Imber. Include appropriate field dat		-	
				anuar)
Fish Observed? (Y/N) Vouc	cher? (Y/N) N Salamanders C		oucher? (Y/N)	N
Frogs or Tadpoles Observed? (Y/N)	N Voucher? (Y/N) N Aqua	atic Macroinvertebrates Ob	vserved? (Y/N) N Voucher?	(Y/N)
Comments Regarding Biology:				
Comments Regarding Biology:				
Comments Regarding Biology:				
Comments Regarding Biology:				
	ARRATIVE DESCRIPTION	OF STREAM READ	H (This must be comple	eted):
DRAWING AND N	ARRATIVE DESCRIPTION		· <u> </u>	
DRAWING AND N	ARRATIVE DESCRIPTION and other features of interest fo		· <u> </u>	
DRAWING AND N. Include important landmarks			· <u> </u>	
DRAWING AND N			· <u> </u>	
DRAWING AND N. Include important landmarks			· <u> </u>	
DRAWING AND N. Include important landmarks			· <u> </u>	
DRAWING AND N. Include important landmarks			· <u> </u>	
DRAWING AND N.			· <u> </u>	

T-Line ROW Edge

PHWH Form Page - 2

Reset Form

Stream PE	3-29
ChieEPA Primary Headwater Habitat Evaluation Form	25
HHEI Score (sum of metrics 1, 2, 3) :	23
SITE NAME/LOCATION FirstEnergy Holloway-Knox 138kV Transmission Line Field ID: s-mdt-06/12/20	018-04
SITE NUMBER PB-29 RIVER BASIN 05040001 DRAINAGE AREA (mi²) 0	.01
LENGTH OF STREAM REACH (ft) 17 LAT. 40.34355 LONG81.05500 RIVER CODE RIVER MILE	
DATE 06/12/18 SCORER MDT, BAO COMMENTS ephemeral flow regime	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instru-	
STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERING MODIFICATIONS: Isome impact from finalis Isome impact from finalis Isome impact from finalis	OVERY
1. SUBSTRATE (Estimate percent of every type of substrate 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.	HHEI
TYPE PERCENT TYPE PERCENT BLDR SLABS [16 pts] 0% I SILT [3 pt] 30%	Metric Points
BOULDER (>256 mm) [16 pts]	Substrate
BEDROCK [16 pt] 0% FINE DETRITUS [3 pts] 0% COBBLE (65-256 mm) [12 pts] 0% CLAY or HARDPAN [0 pt] 0%	Max = 40
GRAVEL (2-64 mm) [9 pts] 60% MUCK [0 pts] 0% SAND (c2 mm) [6 pts] 10% ARTIFICIAL [3 pts] 0%	15
Bldr Slabs, Boulder, Cobble, Bedrock	A + B
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 12 TOTAL NUMBER OF SUBSTRATE TYPES: 3	
 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): 	Pool Depth Max = 30
> 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 22.5 - 30 cm [30 pts]	
> 10 - 22.5 cm [25 pts]	5
COMMENTS MAXIMUM POOL DEPTH Inches 1	
3BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box):	Bankfull
= > 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] = 4 m (< 3' 3" - 4' 8") [15 pts]	Width Max=30
> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	
COMMENTS AVERAGE BANKFULL WIDTH Feet : 0.50	5
This information <u>must</u> also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY 가NOTE: River Left (L) and Right (R) as looking downstream ☆	
RIPARIAN WIDTH FLOODPLAIN QUALITY L R (Per Bank) L R (Most Predominant per Bank) L R	
Wide >10m Mature Forest, Wetland Conservation Tillage	
Field Grate 5-10m Field	
Narrow <5m Residential, Park, New Field Open Pasture, Row Cro	ур
None Fenced Pasture Mining or Construction COMMENTS row	_
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):	
Stream Flowing Subsurface flow with isolated pools (Interstitial)	1
COMMENTS ephemeral	-
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 (2 ft/100 ft) Moderate to Severe (10 ft/10	DO ft)

QHEI PERFORMED? - Yes 🖌 No QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name: Clear Fork	Distance from Evaluated Stream1.05
CWH Name:	
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING TH	HE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: Jewett	NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Harrison T	ownship / City:
MISCELLANEOUS	
Base Flow Conditions? (Y/N):_Y Date of last precipitation:	06/11/18 Quantity: 0.47
Photograph Information: 3 photos	
	100%
	te lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	
Is the sampling reach representative of the stream (Y/N)	f not, please explain:
Additional comments/description of pollution impacts:	
ID number. Include appropriate field	d data sheets from the Primary Headwater Habitat Assessment Manual)
ID number. Include appropriate field Fish Observed? (Y/N) N Voucher? (Y/N) N Salamande Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N)	bucher collections optional. NOTE: all voucher samples must be labeled with d data sheets from the Primary Headwater Habitat Assessment Manual) ers Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N)
ID number. Include appropriate field Fish Observed? (Y/N) N Voucher? (Y/N) N	d data sheets from the Primary Headwater Habitat Assessment Manual) ers Observed? (Y/N) N Voucher? (Y/N) N
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ID number. Include appropriate field Fish Observed? (Y/N) N Salamande Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Comments Regarding Biology:	d data sheets from the Primary Headwater Habitat Assessment Manual) ers Observed? (Y/N) N Voucher? (Y/N) N
ID number. Include appropriate field Fish Observed? (Y/N) N Salamande Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPT	d data sheets from the Primary Headwater Habitat Assessment Manual) ers Observed? (Y/N) N Voucher? (Y/N) N V
ID number. Include appropriate field Fish Observed? (Y/N) N Salamande Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPT	d data sheets from the Primary Headwater Habitat Assessment Manual) ers Observed? (Y/N) N Voucher? (Y/N) N
ID number. Include appropriate field Fish Observed? (Y/N) N Salamande Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPT Include important landmarks and other features of intere	d data sheets from the Primary Headwater Habitat Assessment Manual) ers Observed? (Y/N) N Voucher? (Y/N) N V
ID number. Include appropriate field Fish Observed? (Y/N) N Salamande Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPT	d data sheets from the Primary Headwater Habitat Assessment Manual) ers Observed? (Y/N) N Voucher? (Y/N) N V
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ID number. Include appropriate field Fish Observed? (Y/N) N Salamande Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPT Include important landmarks and other features of intere slope	d data sheets from the Primary Headwater Habitat Assessment Manual) ers Observed? (Y/N) N Voucher? (Y/N) N V
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ID number. Include appropriate field Fish Observed? (Y/N) N Salamande Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPT Include important landmarks and other features of intere slope FLOW	d data sheets from the Primary Headwater Habitat Assessment Manual) ers Observed? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N ION OF STREAM REACH (This <u>must</u> be completed): est for site evaluation and a narrative description of the stream's locati
ID number. Include appropriate field Fish Observed? (Y/N) N Salamande Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPT Include important landmarks and other features of intere slope FLOW	d data sheets from the Primary Headwater Habitat Assessment Manual) ers Observed? (Y/N) N Voucher? (Y/N) N V

Stream PB-30	<i>i</i>
ChieEPA Primary Headwater Habitat Evaluation Form 34	1
HHEI Score (sum of metrics 1, 2, 3) :	
SITE NAME/LOCATION FirstEnergy Holloway-Knox 138kV Transmission Line Field ID: s-mdt-06/12/2018-0)3
SITE NUMBER PB-30 RIVER BASIN 05040001 DRAINAGE AREA (mi²) 0.01	
LENGTH OF STREAM REACH (ft) 17 LAT. 40.34338 LONG81.05507 RIVER CODE RIVER MILE DATE 06/12/18 SCORER MDT, BAO COMMENTS intermittent flow regime	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction	ns
·	
STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVER MODIFICATIONS: Transmission Line ROW Transmission Line ROW Transmission Line ROW	Y
1. SUBSTRATE (Estimate percent of every type of substrate 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.	HEI etric
BLDR SLABS [16 pts] 0% SILT [3 pt] 0% PO	ints
BOULDER (>256 mm) [16 pts] 0% LEAF PACK/WOODY DEBRIS [3 pts] 0% BEDROCK [16 pt] 0% Image: Construction of the second	strate
COBBLE (65-256 mm) [12 pts] 25% CLAY or HARDPAN [0 pt] 0%	x = 40
GRAVEL (2-64 mm) [9 pts] 65% Image: MUCK [0 pts] 0% SAND (<2 mm) [6 pts]	4
Bldr Slabs, Boulder, Cobble, Bedrock	+ B
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 21 TOTAL NUMBER OF SUBSTRATE TYPES: 3	
	I Depth x = 30
> 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 5 cm - 10 cm [15 pts] < 5 cm [5 pts]	
	5
COMMENTS MAXIMUM POOL DEPTH Inches 2	
3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bar	nkfull
	idth x=30
> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	
COMMENTS AVERAGE BANKFULL WIDTH Feet : 3.00	5
This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY \$NOTE: River Left (L) and Right (R) as looking downstream	
RIPARIAN WIDTH FLOODPLAIN QUALITY L R (Per Bank) L R (Most Predominant per Bank) L R	
Wide >10m Mature Forest, Wetland Conservation Tillage	
Moderate 5-10m Immature Forest, Shrub or Old Urban or Industrial	
Narrow <5m Residential, Park, New Field Open Pasture, Row Crop	
None Fenced Pasture Mining or Construction	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):	
Stream Flowing Stream Flowing Moist Channel, isolated pools, no flow (Intermittent)	
Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral) COMMENTS intermittent	
SINUOSITY (Number of ben <u>ds per 61 m (200 ft) of channel) (Check ONLY one box):</u>	
None 1.0 2.0 3.0 0.5 7 1.5 2.5 >3	
STREAM GRAD <u>IENT ESTIMATE</u>	
Image: Flat (0.5 ft/100 ft) Image: Flat to Moderate Image: Moderate (2 ft/100 ft) Image: Moderate to Severe Image: Severe (10 ft/100 ft)	

QHEI PERFORMED? - Yes 🖌 No QHE	El Score (If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name: Clear Fork	Distance from Evaluated Stream1.03
EWH Name:	Distance from Evaluated Stream
	UDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
USGS Quadrangle Name: Jewett	NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Harrison	Township / City:Archer
MISCELLANEOUS	
Base Flow Conditions? (Y/N):_Y Date of last pred	cipitation: 06/11/18 Quantity: 0.47
Photograph Information: 3 photos	
Elevated Turbidity? (Y/N): _N Canopy (% op	ben): 100%
Were samples collected for water chemistry? (Y/N):	
	en (mg/l) pH (S.U.) Conductivity (μmhos/cm)
Is the sampling reach representative of the stream (Y/N)	If not, please explain:
Additional comments/description of pollution impacts:	
ID number. Include appro	ations. Voucher collections optional. NOTE: all voucher samples must be labeled with priate field data sheets from the Primary Headwater Habitat Assessment Manual)
Performed? (Y/N): N (If Yes, Record all observa ID number. Include appro	priate field data sheets from the Primary Headwater Habitat Assessment Manual) Salamanders Observed? (Y/N) N Voucher? (Y/N) N
Performed? (Y/N): N (If Yes, Record all observation include approving the second all observation include approvements of the second all observation include app	priate field data sheets from the Primary Headwater Habitat Assessment Manual) Balamanders Observed? (Y/N) N Voucher? (Y/N) N
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Performed? (Y/N): _N (If Yes, Record all observation observed? (Y/N): _N (If Yes, Record all observation observed? ID number. Include approving Fish Observed? (Y/N) N Voucher? (Y/N) N S Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) Comments Regarding Biology:	priate field data sheets from the Primary Headwater Habitat Assessment Manual) Balamanders Observed? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N) N Sector Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N Vouche
Performed? (Y/N): _N (If Yes, Record all observation observed? (Y/N): _N (If Yes, Record all observation observed? ID number. Include approving Fish Observed? (Y/N) N Voucher? (Y/N) N S Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) Comments Regarding Biology:	priate field data sheets from the Primary Headwater Habitat Assessment Manual) Balamanders Observed? (Y/N) N Voucher? (Y/N) N N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N
Performed? (Y/N): _N (If Yes, Record all observation observed? (Y/N): _N (If Yes, Record all observation observed? ID number. Include approving Fish Observed? (Y/N) N Voucher? (Y/N) N S Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) Comments Regarding Biology:	priate field data sheets from the Primary Headwater Habitat Assessment Manual) Balamanders Observed? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N) N Sector Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N Vouche
Performed? (Y/N): N (If Yes, Record all observation include approving the include approvements of the include approvements of the include approvements of the include approvements of the include approvement of the inclusity of the include	priate field data sheets from the Primary Headwater Habitat Assessment Manual) Balamanders Observed? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N) N Sector Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N Vouche
Performed? (Y/N): N (If Yes, Record all observation include approving the second secon	priate field data sheets from the Primary Headwater Habitat Assessment Manual) Balamanders Observed? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N) N Sector Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N Vouche
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Performed? (Y/N): N (If Yes, Record all observation include approving the second secon	priate field data sheets from the Primary Headwater Habitat Assessment Manual) Salamanders Observed? (Y/N) N Voucher? (Y/N)
Performed? (Y/N): N (If Yes, Record all observation include approving the second secon	priate field data sheets from the Primary Headwater Habitat Assessment Manual) Salamanders Observed? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N SCRIPTION OF STREAM REACH (This <u>must</u> be completed): of interest for site evaluation and a narrative description of the stream's locat <u>s-mdt-6/12/2018-02</u>
Performed? (Y/N): N (If Yes, Record all observation include appropriate approprise approprise appropriate appropriate appropriate appropri	priate field data sheets from the Primary Headwater Habitat Assessment Manual) Salamanders Observed? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N SCRIPTION OF STREAM REACH (This <u>must</u> be completed): of interest for site evaluation and a narrative description of the stream's locat <u>s-mdt-6/12/2018-02</u>
Performed? (Y/N): N (If Yes, Record all observation include approving the second secon	priate field data sheets from the Primary Headwater Habitat Assessment Manual) Salamanders Observed? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N SCRIPTION OF STREAM REACH (This <u>must</u> be completed): of interest for site evaluation and a narrative description of the stream's locat <u>s-mdt-6/12/2018-02</u>
Performed? (Y/N): N (If Yes, Record all observation include appropriate approprise approprise appropriate appropriate appropriate appropri	priate field data sheets from the Primary Headwater Habitat Assessment Manual) Salamanders Observed? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N SCRIPTION OF STREAM REACH (This <u>must</u> be completed): of interest for site evaluation and a narrative description of the stream's locat <u>s-mdt-6/12/2018-02</u>

Stream PB-31]
ChieFPA Primary Headwater Habitat Evaluation Form 29	1
HHEI Score (sum of metrics 1, 2, 3) :	<u> </u>
SITE NAME/LOCATION FirstEnergy Holloway-Knox 138kV Transmission Line Field ID: s-mdt-06/12/2018-0)5
SITE NUMBER PB-31 RIVER BASIN 05040001 DRAINAGE AREA (mi²) 0.01	
LENGTH OF STREAM REACH (ft) 123 LAT. 40.34227 LONG81.05572 RIVER CODE RIVER MILE	_
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction	ns
STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVER	
MODIFICATIONS: some impact from cuver/channelization	T
1. SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes	
	HEI
BLDR SLABS [16 pts] 0% SILT [3 pt] 10% Po	ints
BEDROCK 116 pti V% LILE FINE DETRITUS 13 ptsi V/	strate
COBBLE (65-256 mm) [12 pts] 10% CLAY or HARDPAN [0 pt] 0%	(= 40
GRAVEL (2-64 mm) [9 pts] 60% MUCK [0 pts] 0% SAND (<2 mm) [6 pts]	9
Total of Percentages of (A) Substrate Percentage (B)	
Bldr Slabs, Boulder, Cobble, Bedrock TOLOU% (X) TOTAL NUMBER OF SUBSTRATE TYPES: 4	·D
	Denti
	Depth c = 30
> 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] ✓	
> 10 - 22.5 cm [25 pts]	5
COMMENTS MAXIMUM POOL DEPTH Inches 1	
	nkfull
$\square > 3.0 \text{ m} - 4.0 \text{ m} (> 9' 7'' - 13') [25 \text{ pts}] \qquad \qquad \checkmark \le 1.0 \text{ m} (<=3' 3'') [5 \text{ pts}] \qquad \qquad \textbf{Max}$	idth x=30
> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	
COMMENTS AVERAGE BANKFULL WIDTH Feet : 2.00 5	;
This information must also be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY	
RIPARIAN WIDTH FLOODPLAIN QUALITY L_R (Per Bank) L_R (Most Predominant per Bank) L_R	
Wide >10m Mature Forest, Wetland Conservation Tillage Madagate 5, 10m Immature Forest, Shrub or Old Immature Horest, Shrub or Old	
Moderate 5-10m	
None Fenced Pasture Mining or Construction COMMENTS row	
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 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	

DOWNSTREAM DESIGNATED USE(S) Distance from Evaluated Stream O.96 WWH Name: Distance from Evaluated Stream MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE STE LOCATION USGS Quadrangle Name, Jewett NRCS Soil Map Dage, NRCS Soil Map Stream Order County, Harrison MISCELLANEOUS Base Flow Conditions? (VN), Date of last precipitation: MISCELLANEOUS Base Flow Conditions? (VN), Cacopy (% open): 100% Were samples collected for water chemistry? (VN); N (Note lab sample no. or id. and attach results) Lab Number. Field Measures: Temp (*O) Dissolved Oxygen (mg/l) PH (S.U.) Conductivity (umhos/cm) Is the sampling reach representative of the stream (Y/N) If Incl, please explain: Biotic EVALUATION Performed? (V/N); N (If Yes, Record all observations, Vaucher collections optional: NOTE: all voucher samples must be labeled with II Dommert: Include appropriate Indid data sheets from the Timary Headwater Habitan Assessment Manual) Fieh Observed? (VN), N Voucher? (VN), N Comments Regarding Biology: DRAWING AND NARRATIVE DES CRIPTION 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 FLOW		HEI Score (If Yes, Attach Completed QHEI Form)	
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October 24, 2002 Revision

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PHWH Form Page - 2

Save as pdf

Reset Form

Stream PB-32	
ChieFPA Primary Headwater Habitat Evaluation Form 40	
HHEI Score (sum of metrics 1, 2, 3) :	
SITE NAME/LOCATION FirstEnergy Holloway-Knox 138kV Transmission Line Field ID: s-mdt-06/12/2018-06	5
SITE NUMBER PB-32 RIVER BASIN 05040001 DRAINAGE AREA (mi²) 0.02	4
LENGTH OF STREAM REACH (ft) 388 LAT. 40.33673 LONG81.05806 RIVER CODE RIVER MILE	-
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions	 S
STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY	
MODIFICATIONS:	
1. SUBSTRATE (Estimate percent of every type of substrate 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	ric
BLDR SLABS [16 pts] 0% SILT [3 pt] 15% BOULDER (>256 mm) [16 pts] 0% LEAF PACK/WOODY DEBRIS [3 pts] 0%	าtร
BEDROCK [16 pt] 5% G FINE DETRITUS [3 pts] 0% Subst	
COBBLE (65-256 mm) [12 pts] 15% CLAY or HARDPAN [0 pt] 0%	
Image: Sand (<2 mm) [6 pts]	/
Total of Percentages of 20.00% (A) Substrate Percentage 100% (B) A + E	B
Bildr Slabs, Boulder, Cobble, Bedrock 10076 TOTAL NUMBER OF SUBSTRATE TYPES: 5	
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of Pool D	Pepth
evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max = > 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts]	= 30
 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts] S NO WATER OR MOIST CHANNEL [0 pts] 	
> 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Width	th
$ = 3.0 \text{ m} - 4.0 \text{ m} (> 9' 7" - 13') [25 \text{ pts}] \\ > 1.5 \text{ m} - 3.0 \text{ m} (> 9' 7" - 4' 8") [20 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3" 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3' 3" 3") [5 \text{ pts}] \\ = 1.0 \text{ m} (<=3'$:30
COMMENTS AVERAGE BANKFULL WIDTH Feet : 2.50 5	
This information <u>must</u> also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY · · ☆NOTE: River Left (L) and Right (R) as looking downstream☆	
RIPARIAN WIDTH FLOODPLAIN QUALITY L R (Per Bank) L R (Most Predominant per Bank) L R	
Wide >10m Mature Forest, Wetland Conservation Tillage	
Moderate 5-10m Immature Forest, Shrub or Old Urban or Industrial	
Narrow <5m Residential, Park, New Field Open Pasture, Row Crop	
None Fenced Pasture Mining or Construction COMMENTS row	
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):	
$\boxed{ 0.5 } 1.5 \boxed{ 2.5 } 3$	
STREAM GRADIENT ESTIMATE Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe	

	EAM DESIGNATED USE(S)	0.57
✓ WWH Name: Clea CWH Name:	ar Fork Distance from Evaluated Stream Distance from Evaluated Stream	0.07
EWH Name:	Distance from Evaluated Stream	
MAPPING: /	ATTACH COPIES OF MAPS, INCLUDING THE <u>ENTIRE</u> WATERSHED AREA. CLEARLY MARK THE SITE L	OCATION
USGS Quadrangle Na	me: Jewett NRCS Soil Map Page: NRCS Soil Map Stream	n Order
County: Harrison	Township / City: Archer	
MISCELLAN		
Base Flow Conditions?	P (Y/N):_Y Date of last precipitation:_06/11/18 Quantity:_0.47	
Photograph Information	n: 3 photos	
	N	
Elevated Turbidity? (Y		
Were samples collecte	ed for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:	
	emp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)	
	v v v v v v v v v v v v v v v v v v v	
Is the sampling reach	representative of the stream (Y/N) If not, please explain:	
	lease in the set in all stress in the set of	
Additional comments/c	description of pollution impacts:	
Additional comments/c	description of pollution impacts:	
BIOTIC EV	ALUATION	
	ALUATION (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be la	
BIOTIC EV/ Performed? (Y/N): _N	ALUATION (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be la ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Ma	
BIOTIC EV Performed? (Y/N): _N Fish Observed? (Y/N).	ALUATION (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be la ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Ma N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N	anual)
BIOTIC EV. Performed? (Y/N): _N Fish Observed? (Y/N) Frogs or Tadpoles Obs	ALUATION (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be la ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Ma N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N served? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (anual)
BIOTIC EV Performed? (Y/N): _N Fish Observed? (Y/N).	ALUATION (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be la ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Ma N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N served? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (anual)
BIOTIC EV. Performed? (Y/N): _N Fish Observed? (Y/N) Frogs or Tadpoles Obs	ALUATION (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be la ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Ma N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N served? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (anual)
BIOTIC EV. Performed? (Y/N): _N Fish Observed? (Y/N) Frogs or Tadpoles Obs	ALUATION (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be la ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Ma N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N served? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (anual)
BIOTIC EV. Performed? (Y/N): _N Fish Observed? (Y/N) Frogs or Tadpoles Obs	ALUATION (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be la ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Ma N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N served? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (anual)
BIOTIC EV, Performed? (Y/N): _N Fish Observed? (Y/N) Frogs or Tadpoles Obs Comments Regarding	ALUATION (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be la ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Ma N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N served? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Biology:	anual) (Y/N) <mark>N</mark>
BIOTIC EV. Performed? (Y/N): _N Fish Observed? (Y/N) Frogs or Tadpoles Obs Comments Regarding	ALUATION (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be la ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Ma N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N Served? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Biology:	anual) (Y/N) N eted):
BIOTIC EV. Performed? (Y/N): _N Fish Observed? (Y/N) Frogs or Tadpoles Obs Comments Regarding	ALUATION (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be la ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Ma N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N served? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Biology:	anual) (Y/N) N eted):
BIOTIC EV. Performed? (Y/N): _N Fish Observed? (Y/N) Frogs or Tadpoles Obs Comments Regarding	ALUATION (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be la ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Ma N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N Served? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Biology:	anual) (Y/N) N eted):
BIOTIC EV. Performed? (Y/N): _N Fish Observed? (Y/N) Frogs or Tadpoles Obs Comments Regarding	ALUATION (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be la ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Ma N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N Served? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Biology:	anual) (Y/N) N eted):
BIOTIC EV. Performed? (Y/N): _N Fish Observed? (Y/N) Frogs or Tadpoles Obs Comments Regarding	ALUATION (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be la ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Ma N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N Served? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Biology: MG AND NARRATIVE DESCRIPTION OF STREAM REACH (This <u>must</u> be comple nt landmarks and other features of interest for site evaluation and a narrative description of the stream	anual) (Y/N) N eted):

T-Line ROW Edge

slope

Save as pdf

Reset Form

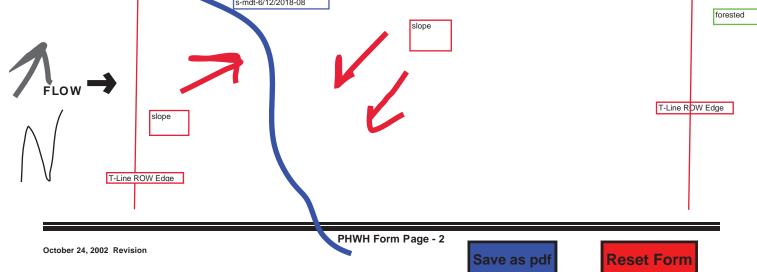
7-

Stream PB-33	
ChieFPA Primary Headwater Habitat Evaluation Form 25	
HHEI Score (sum of metrics 1, 2, 3) :	
SITE NAME/LOCATION FirstEnergy Holloway-Knox 138kV Transmission Line Field ID: s-mdt-06/12/2018-07	
SITE NUMBER PB-33 RIVER BASIN 05040001 DRAINAGE AREA (mi²) 0.01	1
LENGTH OF STREAM REACH (ft) 310 LAT. 40.33034 LONG81.06075 RIVER CODE RIVER MILE	_
DATE 06/12/18 SCORER MDT, BAO COMMENTS ephemeral flow regime	_
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions	\$
STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY MODIFICATIONS:	
signs channel has been relocated in spots and channelized	
1. SUBSTRATE (Estimate percent of every type of substrate 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.	EI
TYPE PERCENT TYPE PERCENT Meti	ric
BLDR SLABS [16 pts] 0% SILT [3 pt] 55% FOII BOULDER (>256 mm) [16 pts] 0% LEAF PACK/WOODY DEBRIS [3 pts] 0%<	115
BEDROCK [16 pt] 0% FINE DETRITUS [3 pts] 0% Substit	
□ COBBLE (65-256 mm) [12 pts] 0% □ CLAY or HARDPAN [0 pt] 0% □ ✓ GRAVEL (2-64 mm) [9 pts] 35% □ MUCK [0 pts] 0%	
Image: Sand (<2 mm) [6 pts])
Total of Percentages of 0.00% (A) Substrate Percentage 100% (B) A + E	
Bldr Slabs, Boulder, Cobble, Bedrock	-
)onth
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] ✓	
> 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts] 5	
COMMENTS MAXIMUM POOL DEPTH	
3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bank	
> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	
COMMENTS AVERAGE BANKFULL WIDTH Feet : 1.50 5	
This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆	
RIPARIAN WIDTH FLOODPLAIN QUALITY	
L R (Per Bank) L R (Most Predominant per Bank) L R Vide >10m Mature Forest, Wetland Conservation Tillage	
Moderate 5-10m Immature Forest, Shrub or Old 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 Moist Channel, isolated pools, no flow (Intermittent)	
Subsurface flow with isolated pools (Interstitial) Dry channel, no water (Ephemeral)	
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	

	/ No QHEI Score (If Yes, Attach Completed QH	El Form)	
DOWNSTREAM DESIGNATED			
		valuated Stream 0.18	mile
CWH Name:		valuated Stream	_
	MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY		
USGS Quadrangle Name: Jewett		CS Soil Map Stream Order	
County: _ Harrison	Township / City: Archer		
MISCELLANEOUS			
Base Flow Conditions? (Y/N):Y Da	e of last precipitation: 06/11/18 Quantity:	0.47	_
Photograph Information: 2 photos			
Elevated Turbidity? (Y/N): C	anopy (% open): 100%		
Were samples collected for water chemistry	? (Y/N): _N (Note lab sample no. or id. and attach results)	Lab Number:	
		ity (µmhos/cm)	
Is the sampling reach representative of the	tream (Y/N) If not, please explain:		
Additional comments/description of pollution	impacts:		
	impacio		
	rd all observations. Voucher collections optional. NOTE: all vouche		he site
Performed? (Y/N): N (If Yes, Reco ID number. Fish Observed? (Y/N) Voucher? (nclude appropriate field data sheets from the Primary Headwater Ha	bitat Assessment Manual)	the site
Performed? (Y/N): N (If Yes, Reco ID number. Fish Observed? (Y/N) Voucher? (Frogs or Tadpoles Observed? (Y/N) N Comments Regarding Biology: DRAWING AND NARRA	nclude appropriate field data sheets from the Primary Headwater Ha /N) N Salamanders Observed? (Y/N) N Voucher? (Y/N	bitat Assessment Manual)	on fore
Performed? (Y/N): N (If Yes, Reco ID number. Fish Observed? (Y/N) Voucher? (Frogs or Tadpoles Observed? (Y/N) N Comments Regarding Biology: DRAWING AND NARRA	nclude appropriate field data sheets from the Primary Headwater Ha /N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) oucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N TIVE DESCRIPTION OF STREAM REACH (This mean features of interest for site evaluation and a narrative desc	bitat Assessment Manual) N N N N N N N Voucher? (Y/N) N N N N N N N N N N N N N	on fore

Stream PB-34	
ChieFPA Primary Headwater Habitat Evaluation Form 36	
HHEI Score (sum of metrics 1, 2, 3):	
SITE NAME/LOCATION FirstEnergy Holloway-Knox 138kV Transmission Line Field ID: s-mdt-06/12/2018-08]
SITE NUMBER PB-34 RIVER BASIN 05040001 DRAINAGE AREA (mi²) 0.11	1
LENGTH OF STREAM REACH (ft) 588 LAT. 40.32927 LONG81.06137 RIVER CODE RIVER MILE	4
DATE 06/12/18 SCORER MDT, BAO COMMENTS intermittent flow regime	_
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions	,
STREAM CHANNEL NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY MODIFICATIONS: Signs channel has been relocated in soots and channelized Signs channel has been relocated in soots and channelized	
	_
(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 Metr BLDR SLABS [16 pts] 0% I SILT [3 pt] 20%	
BOULDER (>256 mm) [16 pts] 0% LEAF PACK/WOODY DEBRIS [3 pts] 0%	rate
Description D% Description D% Description D% Description D% D% <thd%< th=""> <thd%< th=""></thd%<></thd%<>	
GRAVEL (2-64 mm) [9 pts] 65% MUCK [0 pts] 0%	
SAND (<2 mm) [6 pts]	
Total of Percentages of 5.00% (A) Substrate Percentage 100% (B) A + B	\$
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 12 TOTAL NUMBER OF SUBSTRATE TYPES: 4	
2. Maximum Pool Depth (<i>Measure the maximum pool depth within the 61 meter (200 ft</i>) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check <i>ONLY</i> one box): Max =	
> 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts]	
 > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts] 15	
COMMENTS MAXIMUM POOL DEPTH Inches 4	
3. BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bankf	full
> 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Width > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] \checkmark \le 1.0 m (<=3' 3") [5 pts]	
> 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	
COMMENTS AVERAGE BANKFULL WIDTH Feet : 3.00 5	
This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆	
RIPARIAN WIDTH FLOODPLAIN QUALITY L R (Per Bank) L R (Most Predominant per Bank) L R	
Wide >10m Mature Forest, Wetland Conservation Tillage	
Moderate 5-10m Immature Forest, Shrub or Old Urban or Industrial Field	
Narrow <5m Residential, Park, New Field Open Pasture, Row Crop	
None Fenced Pasture Mining or Construction	
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)	

	(If Yes, Att	ach Completed QHEI Form)		
DOWNSTREAM DESIGNATED USE(S)				
WWH Name: Clear Fork		_ Distance from Evaluated Stream	0.06	m
CWH Name:		_ Distance from Evaluated Stream _		_
EWH Name:		Distance from Evaluated Stream		
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE	ENTIRE WATERSHE	D AREA. CLEARLY MARK THE SITE		
SGS Quadrangle Name: Jewett	NRCS Soil Map	Page: NRCS Soil Map Stream	m Order	
Dunty: Harrison Tov	wnship / City:Arche	r		
MISCELLANEOUS				
ase Flow Conditions? (Y/N):_Y Date of last precipitation:	06/11/18	Quantity: 0.47		
notograph Information: 3 photos				1
	00%			
	<u>_</u>			_
ere samples collected for water chemistry? (Y/N): _N (Note	lab sample no. or id.	and attach results) Lab Number:		_
eld Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.)	Conductivity (µmhos/cm)		
the sampling reach representative of the stream (Y/N)	not, please explain:			
ditional comments/description of pollution impacts:				
BIOTIC EVALUATION				
erformed? (Y/N): _N (If Yes, Record all observations. Vouc		al. NOTE: all voucher samples must be		he s
erformed? (Y/N): N (If Yes, Record all observations. Vouc ID number. Include appropriate field of	data sheets from the Pi	al. NOTE: all voucher samples must be rimary Headwater Habitat Assessment M		he s
erformed? (Y/N): N (If Yes, Record all observations. Vouc ID number. Include appropriate field of sh Observed? (Y/N) N Voucher? (Y/N) Salamanders	data sheets from the Pr s Observed? (Y/N)	imary Headwater Habitat Assessment M	fanual)	he s
erformed? (Y/N): N (If Yes, Record all observations. Vouc ID number. Include appropriate field of sh Observed? (Y/N) N Salamanders ogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aq	data sheets from the Pr s Observed? (Y/N)	imary Headwater Habitat Assessment M	fanual)	he s
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erformed? (Y/N): N (If Yes, Record all observations. Vouc ID number. Include appropriate field of sh Observed? (Y/N) N Salamanders ogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aq	data sheets from the Pr s Observed? (Y/N)	imary Headwater Habitat Assessment M	fanual)	he s
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Appendix E Jacobs Open Water/Pond Data Forms

CH2MHILL

POND DATA SHEET			
FEATURE ID: P-MDT-06062018-01ASSOCIATED FEATURES: Wetland PB-10REPORT ID: POND PB-01Associated Features: Wetland PB-10			land PB-10
DATE: 06/06/2018	CLIENT/PRO	JECT NAME: FIRSTENERGY / HOLLOWAY-K	NOX 138 KV TRANSMISSION LINE
INVESTIGATORS: M Thomayer, T.	Qualio		
STATE/COUNTY: OH / Harrison		IS THIS A MAPPED NWI FEATURE?: NA	
		WATERBODY CHARACTER	ISTICS
WATERBODY TYPE:	Man-made		
AVG. DEPTH:	8 ft		
AVG. WIDTH (WATER SURFACE):	100 ft		
APPROXIMATE SIZE:	0.04 acres w	ithin ROW, @ 1 acre total	
	-	QUALITATIVE ATTRIBU	TES
AVERAGE WATER APPEARANCE:	Slight gree	en tint	
PRIMARY SUBSTRATE (IF OBSERVED):	silt		
POTENTIAL HABITAT FOR:	Amphibia	ns, ducks	
SURROUNDING LAND USE: Forested, cleared ROW, wetland			
WETLAND FRINGE (IF PRESENT):			
COMMENTS			

CH2MHILL

POND DATA SHEET				
FEATURE ID: P-MDT-06072018-01Associated Features:REPORT ID: POND PB-02Associated Features:				
DATE: 06/07/2018	CLIENT/PROJECT NAME: FIRSTENERGY / HOLLOWAY-	Knox 138 kV Transmission Line		
INVESTIGATORS: M Thomayer, T.	Qualio			
STATE/COUNTY: OH / Harrison		IS THIS A MAPPED NWI FEATURE?: NA		
	WATERBODY CHARACTE	RISTICS		
WATERBODY TYPE:	Man-made			
AVG. DEPTH:	10 ft			
AVG. WIDTH (WATER SURFACE):	100 ft			
APPROXIMATE SIZE:	0.03 acres within ROW, @ .5 acre total			
	QUALITATIVE ATTRIBU	JTES		
AVERAGE WATER APPEARANCE:	Slight green tint			
PRIMARY SUBSTRATE (IF OBSERVED):	silt			
POTENTIAL HABITAT FOR:	Amphibians, ducks			
SURROUNDING LAND USE: Forested, cleared ROW, wetland				
WETLAND FRINGE (IF PRESENT):				
COMMENTS				

Appendix F Representative Photographs



Site Name	Cowardin Class	Photo Direction	Date of Survey
Wetland PB-01	PEM	East	5/24/2018



HOLLOWAY-KNOX 138KV TRANSMISSION LINE REBUILD PROJECT-PHASE 3 APPENDIX F - REPRESENTATIVE PHOTOGRAPHS WETLAND AND WATERBODY DELINEATION REPORT



Site Name	Cowardin Class	Photo Direction	Date of Survey
Wetland PB-03	PEM	South	6/06/2018



Site Name	Cowardin Class	Photo Direction	Date of Survey
Wetland PB-04	PEM	West	6/06/2018



Site Name	Cowardin Class	Photo Direction	Date of Survey
Wetland PB-05	PEM	Southeast	6/06/2018



Site Name	Cowardin Class	Photo Direction	Date of Survey
Wetland PB-06	PEM	Northeast	6/06/2018



Site Name	Cowardin Class	Photo Direction	Date of Survey
Wetland PB-07	PEM	Southeast	6/06/2018



Site Name	Cowardin Class	Photo Direction	Date of Survey
Wetland PB-08	PEM	East	6/06/2018



ſ	Site Name	Cowardin Class	Photo Direction	Date of Survey
	Wetland PB-09	PEM	North	6/06/2018



Site Name	Cowardin Class	Photo Direction	Date of Survey
Wetland PB-10	PEM	East	6/06/2018



Site Name	Cowardin Class	Photo Direction	Date of Survey
Wetland PB-11	PEM	Northwest	6/07/2018



Site Name	Cowardin Class	Photo Direction	Date of Survey
Wetland PB-12	PEM	Northwest	6/07/2018



Site Name	Cowardin Class	Photo Direction	Date of Survey
Wetland PB-13	PEM	East	6/07/2018



Site Name	Cowardin Class	Photo Direction	Date of Survey
Wetland PB-14	PEM	North	6/07/2018

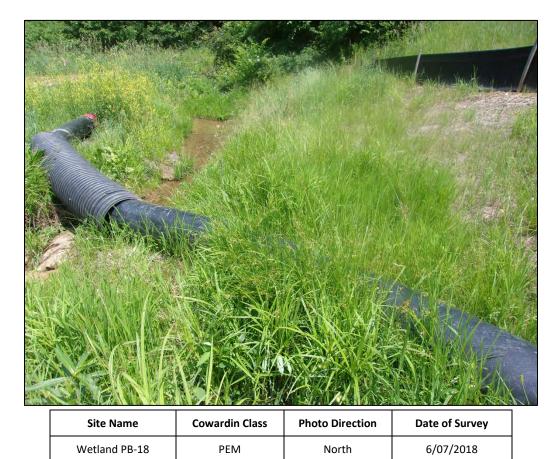


Site Name	Cowardin Class	Photo Direction	Date of Survey
Wetland PB-15	PEM	Southeast	6/07/2018





Site Name	Cowardin Class	Photo Direction	Date of Survey
Wetland PB-17	PEM	South	6/07/2018





Site Name	Cowardin Class	Photo Direction	Date of Survey
Wetland PB-19	PEM	West	6/11/2018





Site Name	Cowardin Class	Photo Direction	Date of Survey
Wetland PB-21	PEM	West	6/11/2018



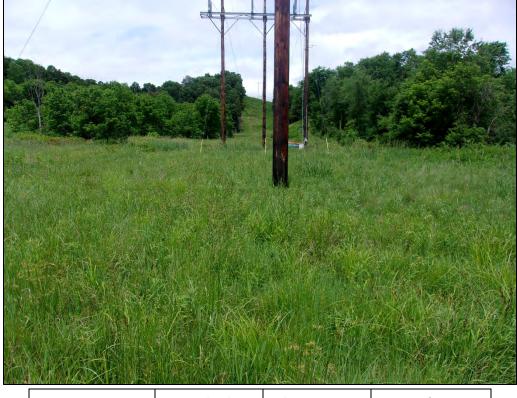
Site Name	Cowardin Class	Photo Direction	Date of Survey
Wetland PB-22	PEM	Southwest	6/12/2018



S	ite Name	Cowardin Class	Photo Direction	Date of Survey
We	tland PB-23	PEM	Southwest	6/12/2018



Site Name	Cowardin Class	Photo Direction	Date of Survey
Wetland PB-24	PEM	South	6/12/2018



Site Name	e (Cowardin Class	Photo Direction	Date of Survey
Wetland PB-	25	PEM	North	6/12/2018

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

4/8/2022 12:38:53 PM

in

Case No(s). 22-0285-EL-BLN

Summary: Application Letter of Notification Application for Kilgore (Polo Road)-New Stacy BUC Segment of Knox-Nottingham 138 kV Transmission Line Project (Part 5) electronically filed by Ms. Devan K. Flahive on behalf of American Transmission Systems Incorporated