

Permanent Orienteering Course - Leader's Guide

Camp Hugh Taylor Birch

Compiled 2021 by Matt Bond, Miami Valley Orienteering Club (MVOC)

This leader's guide has much more info than the scout's guide. You're the leader. You need to know it.



Orienteering Overview

The basic elements of orienteering require a detailed map of the area, control points placed in the terrain, and a comfortable pair of shoes. Put on your comfortable shoes. The rest is here.

The Permanent course at Camp Birch can be used in several different ways from focusing on specific navigation skills to having a fun activity, often both together.

Successful orienteering requires not just physical fitness, and not just knowing how to navigate, but a combination of these. Also, just as there are different physical training regimens such as training for speed vs. training for endurance, there are different navigational skills such as map reading, terrain matching for contours & vegetation, and direction orientation (compass skills are a subset of this). Putting it all together to travel the most efficient way between control locations based on your abilities is the essence of orienteering -- the thinking sport.

Training

It is recommended to use the full Orienteering Merit Badge Pamphlet to develop orienteering skills. Covers and requirements from it are at

https://filestore.scouting.org/filestore/Merit_Badge_ReqandRes/Orienteering.pdf Referring to the page numbers of this excerpt notice about 70 pages of training material is not shown. Order a full copy at <https://www.scoutshop.org/?cncl=439> (search for: Orienteering Merit Badge Pamphlet) or purchase it at your local scout shop. Also check out the Getting Started link at the top of the Miami Valley Orienteering Club (MVOC) website, <http://www.mvoclub.org>

Developing Orienteering Skill

As leader of the orienteering activity you must strive to develop the orienteering skill set in all of your scouts. This includes both physical fitness and navigational ability. Think about group size. Groups only travel as fast as the slowest group member; so while some in the group are traveling as fast as they can at a highly taxing level, the same pace for others is like a proverbial stroll in the park. Also, while all in a group often agree where to go, only one member



decides where to go and what route to take. Scouts must use the buddy system, so when establishing groups work toward the minimum size practicable, that is groups of two with one group of three if needed, sorted by physical ability. Before setting out instruct scouts are to switch navigation tasks such that one leads to the even controls and the other leads to the odd controls. The leading switch between them should be total with the leading scout deciding the route to take. The following scout should keep track of their location with his own map but say nothing unless a safety issue arises, even if they go a bit astray from the leading scout's planned route. Doing this maximizes individual skill development in the group setting. Working to develop individual orienteering skills also aligns the activity with the youth programs of Orienteering USA, the national governing body of orienteering in the US, <https://orienteeringusa.org/us-teams/junior-program/>

Don't bite off more than you can chew. It's often preached but less often followed. Don't become glossy-eyed over an option to do a long, tough course when a shorter, easier course is more aligned to your scout's abilities. Follow the course levels progressing from easiest to hardest, only moving up when the previous level is mastered. There will always be another day to do a longer, tougher course if there is success today with a course within their abilities. Burn them with too much to start and they'll never return. That also applies to navigational skill. Work on relating map features to terrain features first, and later progress to attack points, collecting features, aiming off, and coarse vs. fine navigation. Follow the progression and before you know it they'll reach orienteering nirvana -- reading the map like a book and running through the woods like they lived there. When they start discussing how the mapper should have represented various features of the terrain, point them toward MVOC. We have some mapping projects for them.

Hold a course review session after the activity to give scouts a chance talk about and show on the map what happened on the course. A great time for this is during the meal immediately following the activity. This allows even scouts who did not do so well in their navigation to have input and share their experiences -- and in so doing, learn more about navigation through their peer's successes and challenges.

A course set up to follow a set sequence of controls is known as a **cross-country course**. Its advantage is the ability for the course planner to set the course for a specific ability level. For instance, an easy course can be set so following trails is the best route choice; and a hard course can be set so bushwhacking looks like the fastest option. A good leg for experienced orienteers cause them to scratch their heads deciding what route to take between controls that's the quickest of two or more options.

Note: Doing a cross-country course backwards changes its difficulty level. Many controls are easy to find from one direction, and harder to find when approached from another direction. It also changes the decision points and decision challenges along the leg between the controls. It's not the same course.

Other course types can be created from the set of controls such as relays, forking options, etc.

Each control has an associated description that includes its code and the feature it's on or next to. The control descriptions on the example set of courses use the International Orienteering Federation (IOF) symbols, and for the easier courses the English meaning is shown. If a scout learns the IOF symbols, they can orienteer anywhere in the world without needing to know the local language. The symbols are rather intuitive as they resemble map symbols for the features. A good reference for the symbols of the control description sheet is <https://www.maprunner.co.uk/simon/iofcondescbothpages.jpg> The full IOF specification is at <https://1drv.ms/b/s!As4LDA11gDVmgZAhk21itktEJa7KFw>

Opisy punktów									
M16			4.1 km			120 m			
▶			↗	×					
1	40	↘	∩						
2	53		⋮	↘					
3	46	↓	∨						
4	57) (
5	32		⤵						
6	58		▲						
7	47	↙	∩	—					
8	48		↗			└┘			
9	49		■			└┘			
10	100		↗	↘	×				

○-----180 m-----➔◎

Control Verification

Different patterns are made on the card by the different punches to verify visitation. This tried and true “manual punch” method is used at a few MVOC events.

A sheet containing three blank punch cards is included at the end of this guide. Print that page for a copy to reproduce. It's the standard MVOC punch card and has some fields like vehicle info that won't be used for a scout activity. The end stub is detached at the start and stays at the event center to keep track of who is out on courses. The stub is also used to post results. Both parts of the card are to be filled out with the same info.



When scouts return first check the accuracy of their punches. A set of master punch cards for the example courses is included at the very end of this guide. Accept punches that are reversed (punched from the opposite side) and/or rotated. Then calculate their elapsed time on the course. Transfer the result to its stub, and fold & staple the stub on a results string. Slide stubs along the string as needed to sort by elapsed time, creating space for a new result, then fold the new stub over the string and staple it on.

The Maps

The name of the course is shown in the top-left corner of the control descriptions on each map. Print copies of the course page(s) needed. A synopsis of each course follows:

- Scout – Easiest and shortest, get used to reading the map, no compass needed.
- 1st Class – Beginner, length meets 1st class rank advancement 4a criteria, no compass needed.
- Star – Advanced beginner, gets off trail a bit, compass use could help for a few controls.
- Life – Intermediate, longer for the older scout, can interpret the control descriptions, compass use could help for a few controls.
- Eagle – Advanced Intermediate, longest requires endurance and the ability to mentally navigate while physically fatigued, can interpret the control descriptions, compass use could help for a few controls. Note: this course is not considered at the expert level because the trail density at Camp Birch is too high. Only short bushwacking is needed to hit another trail and relocate.
- Score – All abilities, use for timed activities, set point values for controls, deduct points per minutes over the limit when they return.
- All Controls – Use to design and implement your own course.

The Controls

The controls are reflective to open up new activity possibilities. If running a nighttime activity, reduce the course distance and technical level, or set other boundaries and equipment requirements (spare headlamp batteries, no fully inexperienced groups, etc.) as deemed appropriate. Night orienteering is more challenging than during daylight.

Camp Hugh Taylor Birch

4057 Swimming Pool Road, Yellow Springs, OH 45387



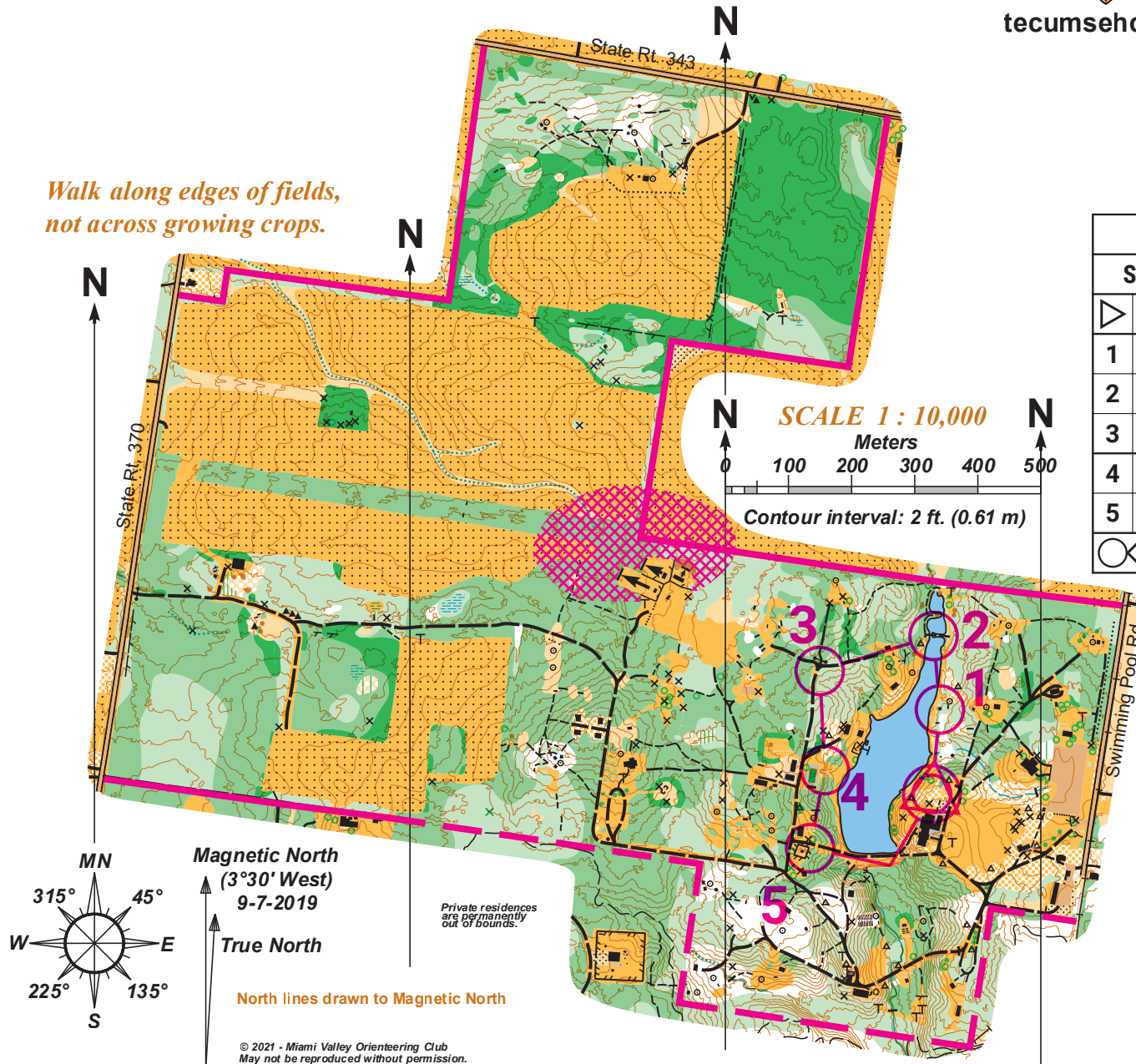
tecumsehscouncilbsa.org



mvocclub.org

Base map: GIS data from
Greene County
Fieldwork & Cartography, 2019
by Matt Bond
Latest Update: Apr. 2021
by Matt & Sharon Bond

Walk along edges of fields,
not across growing crops.



Permanent Course					
Scout		1.0 km		15 m	
▷		⚓			Start: copse
1	A	▲			Boulder
2	B	↗		○	SE side of bridge
3	C	↘	✕	○	SE side of path crossing
4	D	↑	↘	└	Foot of N earth bank
5	E	↗		└	NE outside corner of fence
○✕		260 m		○✕	Navigate 260 m to finish

LEGEND

Open land	Paved road
Open land with scattered trees	Road
Open land with scattered copses	Vehicle track
Rough open land	Footpath
Rough open land with sc. trees	Small footpath
Open sandy or gravelly ground	Indistinct small footpath
Cultivated land	Narrow ride (mt. bike path)
Open forest	Path with bridge, without bridge
Forest, slow running	Path junctions: distinct & indistinct
Undergrowth, slow running	Building, Man-made object
Forest, difficult to run	Paved area
Undergrowth, difficult to run	Bare rock
Vegetation, very difficult to run	Power line
Distinct trees, Rootstock	Small tower, Fire ring
Passable rock face, Cliff	Pipeline
Boulder, Boulder cluster	Firing range
Small watercourse, Narrow marsh	Gate, Ruin
Intermittent stream, Lake	Disc golf target
Well, Water source	Contour lines
Uncrossable stream (use bridges)	Form lines, Small erosion gully
Stream with high bank	Knoll, Elongated knoll
Distinct cultivation boundary	Small depression, Pit
Distinct vegetation boundary	Broken ground, Stony ground
Fence	Camp boundary with private land
Ruined fence	Camp boundary with public land
High fence	Dangerous area

Camp Hugh Taylor Birch

4057 Swimming Pool Road, Yellow Springs, OH 45387



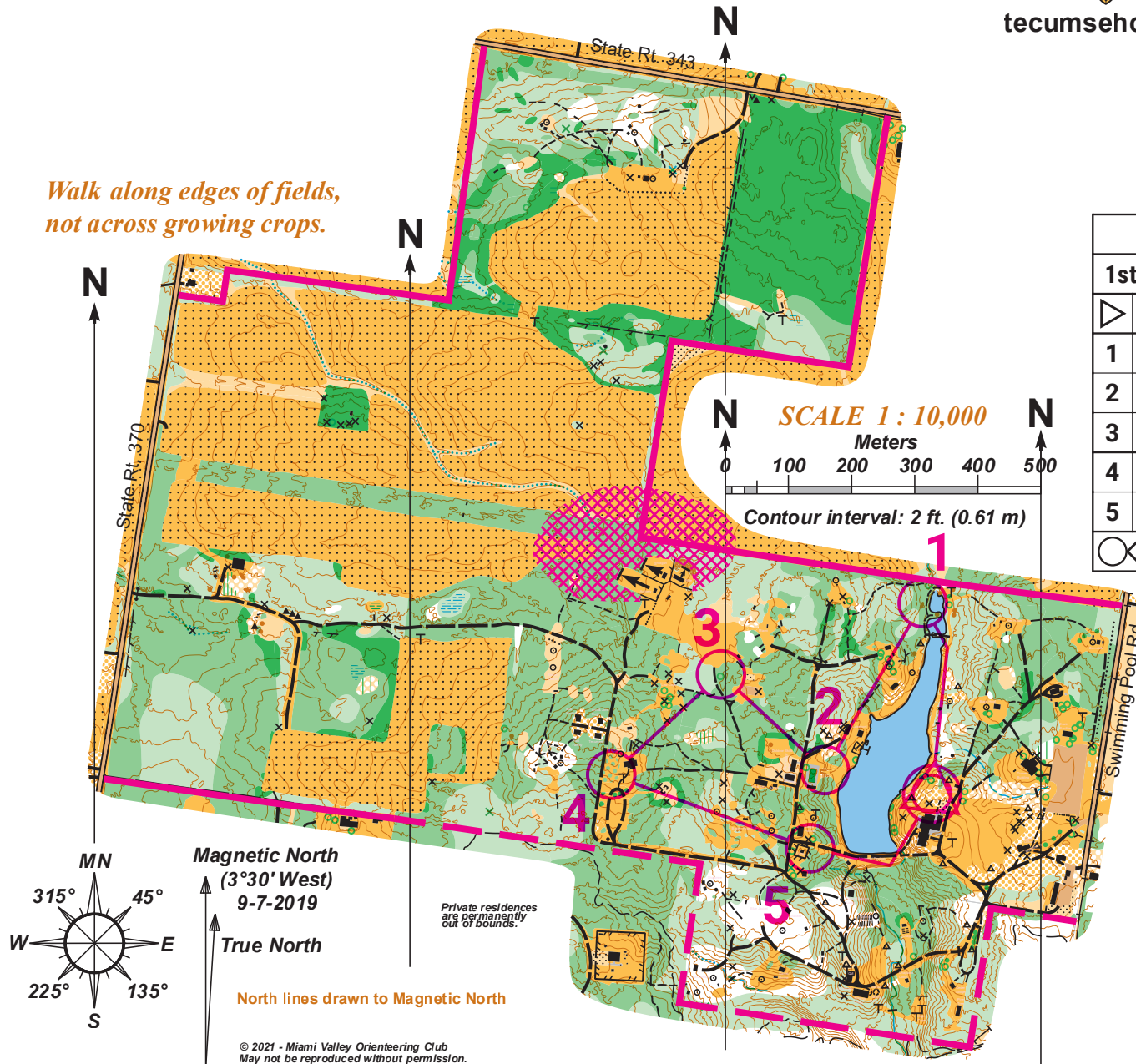
tecumsehcountilbsa.org



mvocclub.org

Base map: GIS data from
Greene County
Fieldwork & Cartography, 2019
by Matt Bond
Latest Update: Apr. 2021
by Matt & Sharon Bond

Walk along edges of fields,
not across growing crops.



Permanent Course				
1st Class		1.7 km	20 m	
▷		⚓		Start: copse
1	F	•	⊙	N edge of knoll
2	D	↑	└	Foot of N earth bank
3	G	⚓		Lone tree
4	H	⚓		Middle copse
5	E	↗	└	NE outside corner of fence
⊗		260 m	⊗	Navigate 260 m to finish

LEGEND

Open land	Paved road
Open land with scattered trees	Road
Open land with scattered copses	Vehicle track
Rough open land	Footpath
Rough open land with sc. trees	Small footpath
Open sandy or gravelly ground	Indistinct small footpath
Cultivated land	Narrow ride (mt. bike path)
Open forest	Path with bridge, without bridge
Forest, slow running	Path junctions: distinct & indistinct
Undergrowth, slow running	Building, Man-made object
Forest, difficult to run	Paved area
Undergrowth, difficult to run	Bare rock
Vegetation, very difficult to run	Power line
Distinct trees, Rootstock	Small tower, Fire ring
Passable rock face, Cliff	Pipeline
Boulder, Boulder cluster	Firing range
Small watercourse, Narrow marsh	Gate, Ruin
Intermittent stream, Lake	Disc golf target
Well, Water source	Contour lines
Uncrossable stream (use bridges)	Form lines, Small erosion gully
Stream with high bank	Knoll, Elongated knoll
Distinct cultivation boundary	Small depression, Pit
Distinct vegetation boundary	Broken ground, Stony ground
Fence	Camp boundary with private land
Ruined fence	Camp boundary with public land
High fence	Dangerous area

Camp Hugh Taylor Birch

4057 Swimming Pool Road, Yellow Springs, OH 45387



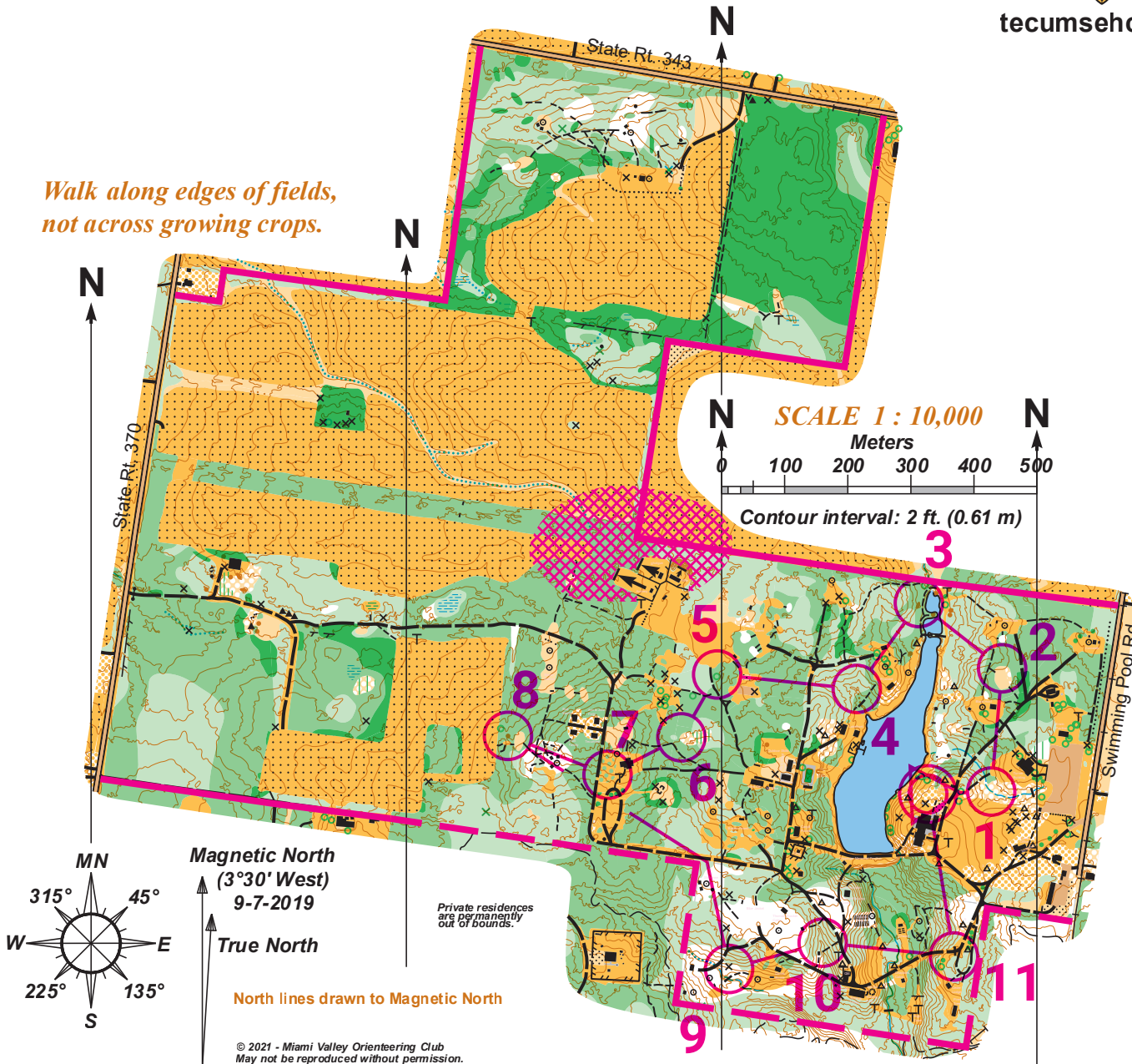
tecumsehcountilbsa.org



mvocclub.org

Base map: GIS data from
Greene County
Fieldwork & Cartography, 2019
by Matt Bond
Latest Update: Apr. 2021
by Matt & Sharon Bond

Walk along edges of fields,
not across growing crops.



Permanent Course					
Star		2.4 km	35 m		
					Start: copse
1	R				Bend in ditch
2	J				N part of semi-open land
3	F				N edge of knoll
4	K				Shallow reentrant junction
5	G				Lone tree
6	L				W part of semi-open land
7	H				Middle copse
8	M				Top of knoll
9	N				S side of pipeline
10	O				Reentrant
11	Q				S side of tower
			260 m		Navigate 260 m to finish

LEGEND

	Open land		Paved road
	Open land with scattered trees		Road
	Open land with scattered copses		Vehicle track
	Rough open land		Footpath
	Rough open land with sc. trees		Small footpath
	Open sandy or gravelly ground		Indistinct small footpath
	Cultivated land		Narrow ride (mt. bike path)
	Open forest		Path with bridge, without bridge
	Forest, slow running		Path junctions: distinct & indistinct
	Undergrowth, slow running		Building, Man-made object
	Forest, difficult to run		Paved area
	Undergrowth, difficult to run		Bare rock
	Vegetation, very difficult to run		Power line
	Distinct trees, Rootstock		Small tower, Fire ring
	Passable rock face, Cliff		Pipeline
	Boulder, Boulder cluster		Firing range
	Small watercourse, Narrow marsh		Gate, Ruin
	Intermittent stream, Lake		Disc golf target
	Well, Water source		Contour lines
	Uncrossable stream (use bridges)		Form lines, Small erosion gully
	Stream with high bank		Knoll, Elongated knoll
	Distinct cultivation boundary		Small depression, Pit
	Distinct vegetation boundary		Broken ground, Stony ground
	Fence		Camp boundary with private land
	Ruined fence		Camp boundary with public land
	High fence		Dangerous area

Camp Hugh Taylor Birch

4057 Swimming Pool Road, Yellow Springs, OH 45387



tecumsehCouncilbsa.org



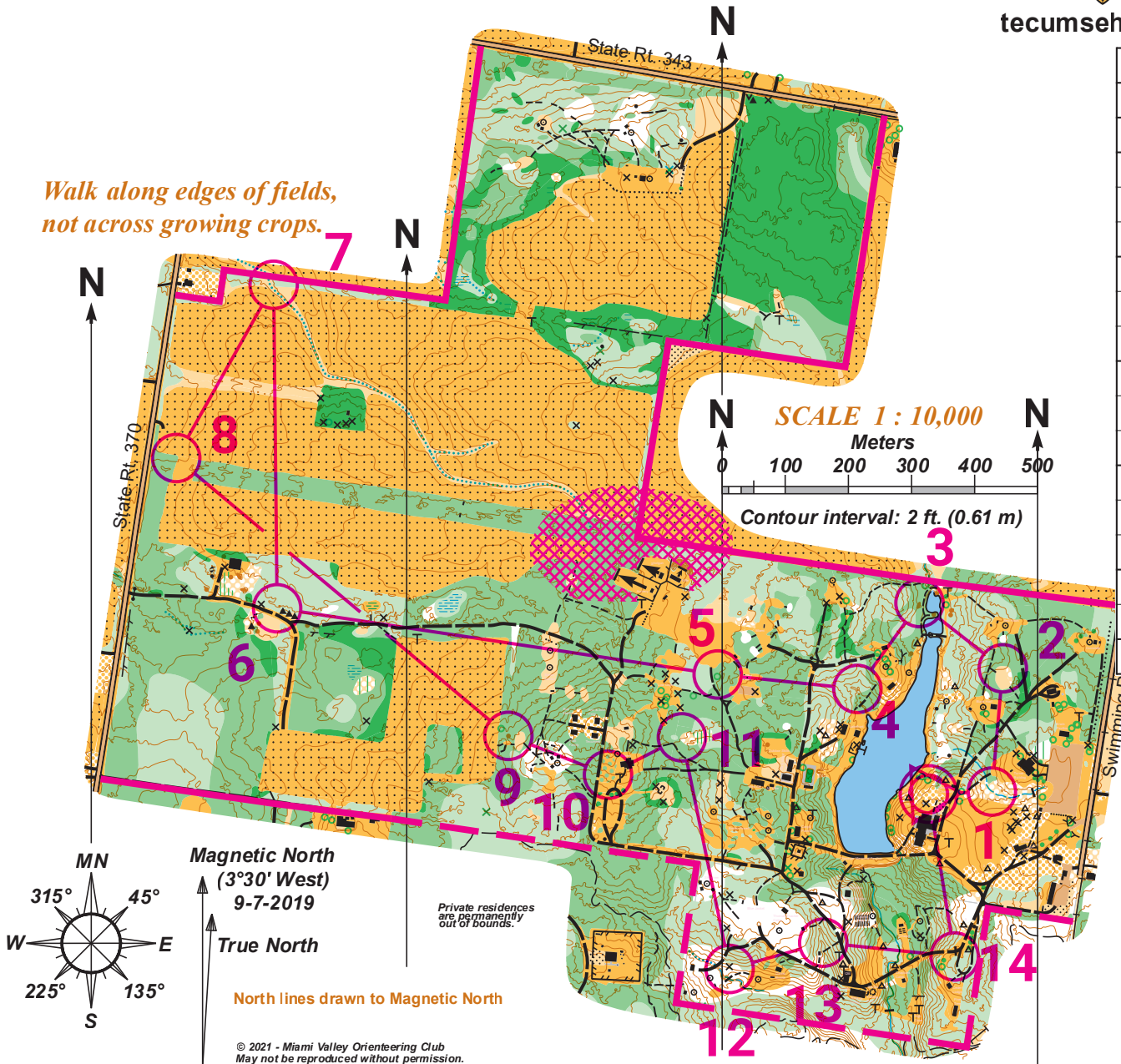
mvocclub.org

Base map: GIS data from
Greene County
Fieldwork & Cartography, 2019
by Matt Bond
Latest Update: Apr. 2021
by Matt & Sharon Bond

Permanent Course				
Life		4.4 km	45 m	
▷		⚓		
1	R	⚓	<	
2	J	⚓	○	
3	F	•	○	
4	K	⌒	Y	
5	G	⬆		
6	U	▲	○	
7	X	⚓	Y	○
8	S	⚓	⌒	
9	M	•	⌒	
10	H	⚓		
11	L	⚓	○	
12	N	⚓	○	
13	O	⌒		
14	Q	T	○	
⊗		260 m	⊗	

LEGEND

Open land	Paved road
Open land with scattered trees	Road
Open land with scattered copses	Vehicle track
Rough open land	Footpath
Rough open land with sc. trees	Small footpath
Open sandy or gravelly ground	Indistinct small footpath
Cultivated land	Narrow ride (mt. bike path)
Open forest	Path with bridge, without bridge
Forest, slow running	Path junctions: distinct & indistinct
Undergrowth, slow running	Building, Man-made object
Forest, difficult to run	Paved area
Undergrowth, difficult to run	Bare rock
Vegetation, very difficult to run	Power line
Distinct trees, Rootstock	Small tower, Fire ring
Passable rock face, Cliff	Pipeline
Boulder, Boulder cluster	Firing range
Small watercourse, Narrow marsh	Gate, Run
Intermittent stream, Lake	Disc golf target
Well, Water source	Contour lines
Uncrossable stream (use bridges)	Form lines, Small erosion gully
Stream with high bank	Knoll, Elongated knoll
Distinct cultivation boundary	Small depression, Pit
Distinct vegetation boundary	Broken ground, Stony ground
Fence	Camp boundary with private land
Ruined fence	Camp boundary with public land
High fence	Dangerous area



Camp Hugh Taylor Birch

4057 Swimming Pool Road, Yellow Springs, OH 45387



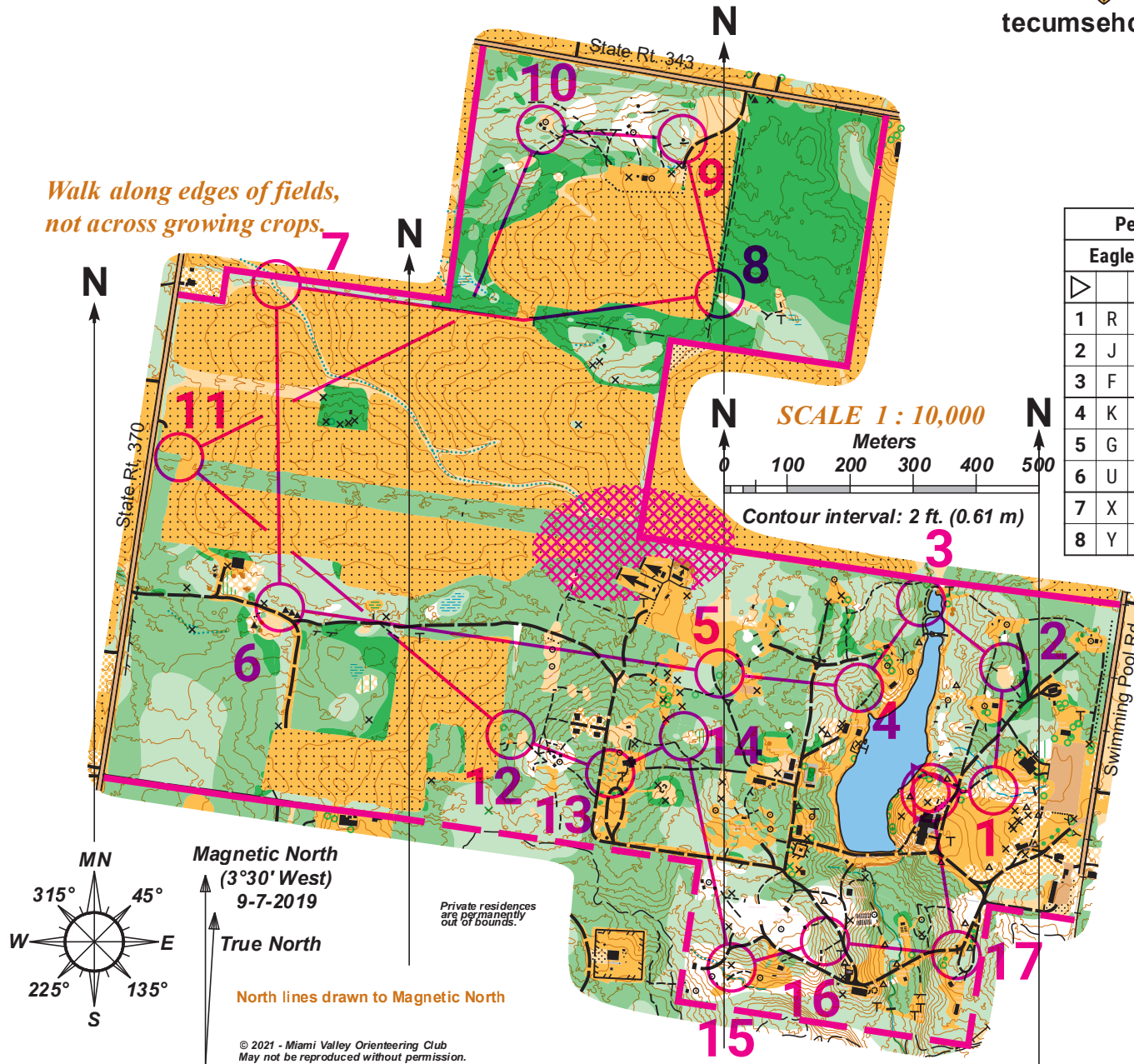
tecumsehcountilbsa.org



mvocclub.org

Base map: GIS data from
Greene County
Fieldwork & Cartography, 2019
by Matt Bond
Latest Update: Apr. 2021
by Matt & Sharon Bond

Walk along edges of fields,
not across growing crops.



Permanent Course			
Eagle	6.1 km	60 m	
1 R			
2 J			
3 F			
4 K			
5 G			
6 U			
7 X			
8 Y			

9 P			
10 T			
11 S			
12 M			
13 H			
14 L			
15 N			
16 O			
17 Q			
		260 m	

LEGEND

	Open land		Paved road
	Open land with scattered trees		Road
	Open land with scattered copses		Vehicle track
	Rough open land		Footpath
	Rough open land with sc. trees		Small footpath
	Open sandy or gravelly ground		Indistinct small footpath
	Cultivated land		Narrow ride (mt. bike path)
	Open forest		Path with bridge, without bridge
	Forest, slow running		Path junctions: distinct & indistinct
	Undergrowth, slow running		Building, Man-made object
	Forest, difficult to run		Paved area
	Undergrowth, difficult to run		Bare rock
	Vegetation, very difficult to run		Power line
	Distinct trees, Rootstock		Small tower, Fire ring
	Passable rock face, Cliff		Pipeline
	Boulder, Boulder cluster		Firing range
	Small watercourse, Narrow marsh		Gate, Ruin
	Intermittent stream, Lake		Disc golf target
	Well, Water source		Contour lines
	Uncrossable stream (use bridges)		Form lines, Small erosion gully
	Stream with high bank		Knoll, Elongated knoll
	Distinct cultivation boundary		Small depression, Pit
	Distinct vegetation boundary		Broken ground, Stony ground
	Fence		Camp boundary with private land
	Ruined fence		Camp boundary with public land
	High fence		Dangerous area

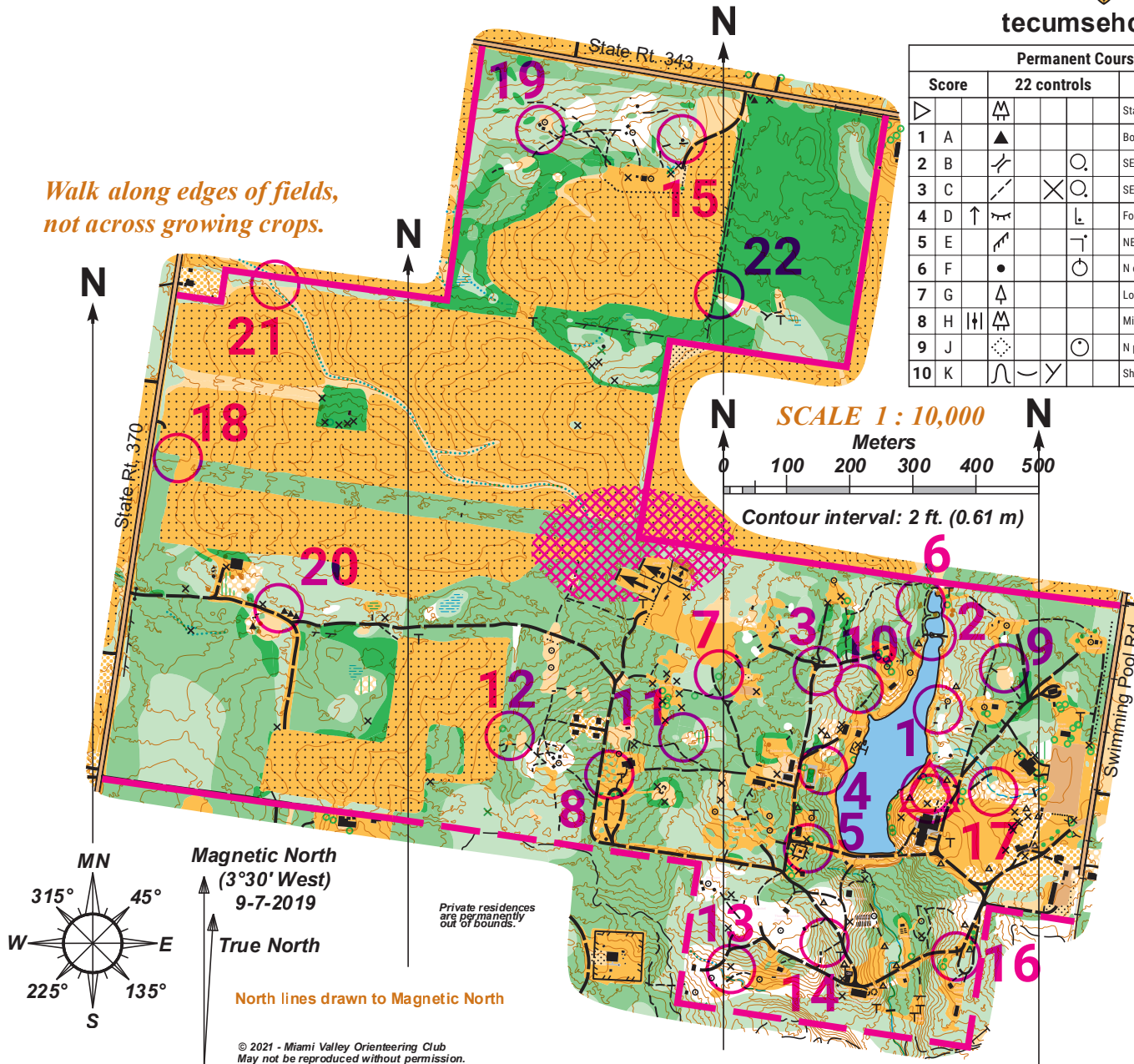
Camp Hugh Taylor Birch

4057 Swimming Pool Road, Yellow Springs, OH 45387



tecumsehouncilbsa.org

Walk along edges of fields,
not across growing crops.



Permanent Course			
Score	22 controls		
Start: copse			
1 A	▲		Boulder
2 B	↗	○	SE side of bridge
3 C	↘	○	SE side of path crossing
4 D	↑	⊥	Foot of N earth bank
5 E	↗	⊥	NE outside corner of fence
6 F	●	○	N edge of knoll
7 G	▲		Lone tree
8 H		▲	Middle copse
9 J	○	○	N part of semi-open land
10 K	⌒	⌒	Shallow reentrant junction

11 L	○	○	W part of semi-open land
12 M	●	⌒	Top of knoll
13 N	↗	○	S side of pipeline
14 O	⌒		Reentrant
15 P	▲		Boulder
16 Q	⊥	○	S side of tower
17 R	⌒	⌒	Bend in ditch
18 S	⌒	⌒	NE inside corner of forest corner
19 T	⌒	○	SW side of SE building
20 U	▲	○	NW side of boulder cluster
21 X	⌒	○	SW edge of ditch and vegetation boundary junction
22 Y	⌒	⌒	Path and semi-open land crossing

LEGEND

Open land	Paved road
Open land with scattered trees	Road
Open land with scattered copses	Vehicle track
Rough open land	Footpath
Rough open land with sc. trees	Small footpath
Open sandy or gravelly ground	Indistinct small footpath
Cultivated land	Narrow ride (mt. bike path)
Open forest	Path with bridge, without bridge
Forest, slow running	Path junctions: distinct & indistinct
Undergrowth, slow running	Building, Man-made object
Forest, difficult to run	Paved area
Undergrowth, difficult to run	Bare rock
Vegetation, very difficult to run	Power line
Distinct trees, Rootstock	Small tower, Fire ring
Passable rock face, Cliff	Pipeline
Boulder, Boulder cluster	Firing range
Small watercourse, Narrow marsh	Gate, Run
Intermittent stream, Lake	Disc golf target
Well, Water source	Contour lines
Uncrossable stream (use bridges)	Form lines, Small erosion gully
Stream with high bank	Knoll, Elongated knoll
Distinct cultivation boundary	Small depression, Pit
Distinct vegetation boundary	Broken ground, Stony ground
Fence	Camp boundary with private land
Ruined fence	Camp boundary with public land
High fence	Dangerous area

Camp Hugh Taylor Birch

4057 Swimming Pool Road, Yellow Springs, OH 45387



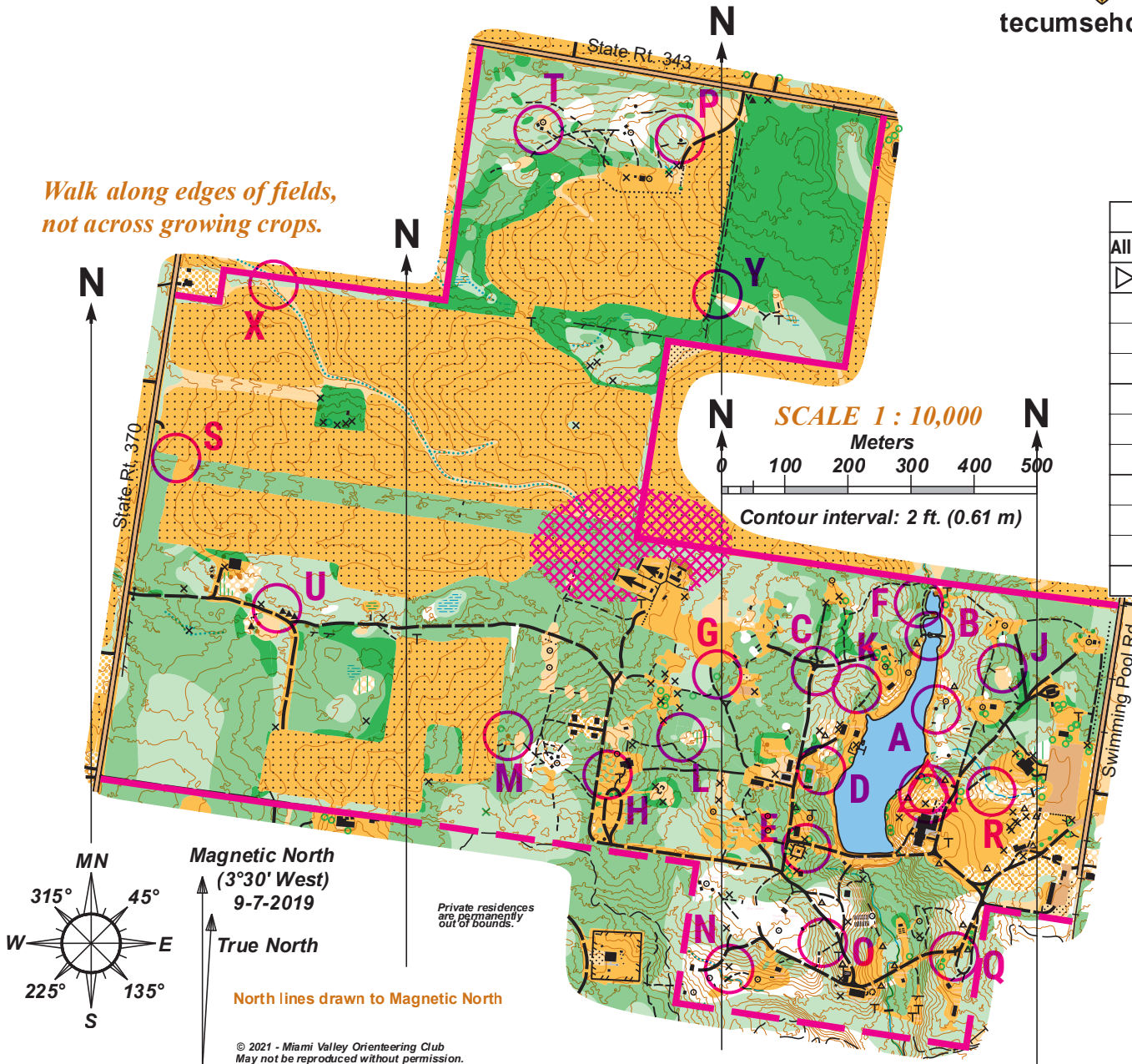
tecumsehclubbsa.org



mvocclub.org

Base map: GIS data from
Greene County
Fieldwork & Cartography, 2019
by Matt Bond
Latest Update: Apr. 2021
by Matt & Sharon Bond

Walk along edges of fields,
not across growing crops.




Permanent Course			
All controls		22 controls	
▷		⚓	
A	▲		
B	↗		○
C	↘	×	○
D	↑		⊥
E	↖		⊥
F	●		○
G	↑		
H	⦶		
J	⬢		○
K	↖		

L	⬢		○
M	●		⊥
N	↗		○
O	↘		
P	▲		
Q	⦶		○
R	⦶	<	
S	⦶	⦶	
T	⦶		○
U	▲		○
X	⦶	⦶	○
Y	⦶	⦶	
⦶			⦶


LEGEND

Open land	Paved road
Open land with scattered trees	Road
Open land with scattered copses	Vehicle track
Rough open land	Footpath
Rough open land with sc. trees	Small footpath
Open sandy or gravelly ground	Indistinct small footpath
Cultivated land	Narrow ride (mt. bike path)
Open forest	Path with bridge, without bridge
Forest, slow running	Path junctions: distinct & indistinct
Undergrowth, slow running	Building, Man-made object
Forest, difficult to run	Paved area
Undergrowth, difficult to run	Bare rock
Vegetation, very difficult to run	Power line
Distinct trees, Rootstock	Small tower, Fire ring
Passable rock face, Cliff	Pipeline
Boulder, Boulder cluster	Firing range
Small watercourse, Narrow marsh	Gate, Run
Intermittent stream, Lake	Disc golf target
Well, Water source	Contour lines
Uncrossable stream (use bridges)	Form lines, Small erosion gully
Stream with high bank	Knoll, Elongated knoll
Distinct cultivation boundary	Small depression, Pit
Distinct vegetation boundary	Broken ground, Stony ground
Fence	Camp boundary with private land
Ruined fence	Camp boundary with public land
High fence	Dangerous area

	Safety Law RETURN THIS CARD TO FINISH OFFICIAL				FINISH			
	NAME(S)				START			00
Card No.	COURSE	CLASS		AFFILIATION	TOTAL			
17	18	19	20	21	22	23	24	
9	10	11	12	13	14	15	16	
1	2	3	4	5	6	7	8	


CUT HERE

VEHICLE LICENSE OR DESCRIPTION:		FOLD	
Card No.	NAME(S)		
COURSE	FINISH		00
CLASS	START		
AFFILIATION	TOTAL		

	Safety Law RETURN THIS CARD TO FINISH OFFICIAL				FINISH			
	NAME(S)				START			00
Card No.	COURSE	CLASS		AFFILIATION	TOTAL			
17	18	19	20	21	22	23	24	
9	10	11	12	13	14	15	16	
1	2	3	4	5	6	7	8	

CUT HERE






VEHICLE LICENSE OR DESCRIPTION:		FOLD	
Card No.	NAME(S)		
COURSE	FINISH		00
CLASS	START		
AFFILIATION	TOTAL		

	Safety Law RETURN THIS CARD TO FINISH OFFICIAL				FINISH			
	NAME(S)				START			00
Card No.	COURSE	CLASS		AFFILIATION	TOTAL			
17	18	19	20	21	22	23	24	
9	10	11	12	13	14	15	16	
1	2	3	4	5	6	7	8	






CUT HERE

VEHICLE LICENSE OR DESCRIPTION:		FOLD	
Card No.	NAME(S)		
COURSE	FINISH		00
CLASS	START		
AFFILIATION	TOTAL		












Scout

1 	2 (A) 	3 (B) 	4 (C) 	5 (D) 			

1st Class

1 (F) 	2 (D) 	3 (G) 	4 (H) 	5 (E) 			

Star

9 (N) 	10 (O) 	11 (Q) 					
1 (R) 	2 (J) 	3 (F) 	4 (K) 	5 (G) 	6 (L) 	7 (H) 	8 (M) 

Life							
9 (M)	10 (H)	11 (L)	12 (N)	13 (O)	14 (Q)		
1 (R)	2 (J)	3 (F)	4 (K)	5 (G)	6 (U)	7 (X)	8 (S)

Eagle							
17 (Q)							
9 (P)	10 (T)	11 (S)	12 (M)	13 (H)	14 (L)	15 (N)	16 (O)
1 (R)	2 (J)	3 (F)	4 (K)	5 (G)	6 (U)	7 (X)	8 (Y)

Score							
17 (R)	18 (S)	19 (T)	20 (U)	21 (X)	22 (Y)		
9 (J)	10 (K)	11 (L)	12 (M)	13 (N)	14 (O)	15 (P)	16 (Q)
1 (A)	2 (B)	3 (C)	4 (D)	5 (E)	6 (F)	7 (G)	8 (H)