

SW 12

July 24, 1970

General Sanitation Section  
Division of Sanitary Engineering  
Indiana State Board of Health  
1330 West Michigan Street  
Indianapolis, Ind. 46206



Gentleman,

Attached is information on a proposed Sanitary Landfill for  
Fulaski County for your consideration.

Included is the following:

- 1) Written narrative regarding the proposed site.
- 2) General county map showing the proposed landfill site.
- 3) General soils map of the county. This helps to point out why a more central site was not proposed.
- 4) A detailed soil survey map of the landfill site with interpretations.
- 5) A sketch of the proposed landfill layout.

This information is submitted for your consideration.

Sincerely,

*J. D. Tanner*

Fulaski County Commissioners

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JUL 27 1970

INDIANA STATE BOARD OF HEALTH  
SANITARY ENGINEERING DIVISION

PROPOSED SANITITARY LANDFILL  
PULASKI COUNTY, INDIANA

By *Bill Swern, District  
Conservationist*  
*Jerry Thomas, Soils  
Scientist*

Agencies Assisting:

- Pulaski County Soil and Water Conservation District
- U.S.D.A. Soil Conservation Service
- Pulaski County Commissioners
- Pulaski County Board of Health
- Pulaski County Extensoin Service
- William Larkin, owner

*Office  
of the  
Sanitary Engineer*

County road 50E lies on the east side of the proposed site and State Highway 119 lies on the west side of the proposed site. Both of these are all-weather blacktop roads. An all-weather road is to be built within the site which will make the trench readily accessible all year long.

The method of operation is to be the trench method. The trenches will be dug in a north-south direction which will place the trenches at right angles to the prevailing winds. The trenches will be a minimum of 10 feet wide at the bottom and a maximum of 10 feet deep. The material will be compacted and covered, with a minimum of 6 inches of loam material, every day with an industrial tractor with Front end loader. The trench will act similar to the moving ramp system in that after the trench is filled, the trucks hauling the wastes will back over the fill to empty into the new trench. Thus the amount of compaction will be greatly increased.

The site will probably be open five days a week from 9:00 A.M. to 4:00 P.M. The hours required will have to be determined more accurately after operations begin.

After the minimum cover of 2 feet of loam fill material is placed on top of the completed trench: it will be seeded to an alfalfa-brome grass mixture. This will provide temporary ground cover until such time the area can be returned to normal agricultural cropping. The final land use will be returning it to intensive agricultural crop production.

The all-weather road, which is to be built within the site, will allow the operation to be carried on throughout winter and incimate weather.

*William Larkin, 16 1/2 acres  
land will be leased  
to Larkin, land owner will operate in other way.*

A snow fence will be constructed along the east side of the trench. Which will be leeward of the trench to control blowing of the litter.

A planting of shrubs and pines ( see attached map ) will be established for esthetic purposed. This planting will be along the north property line and along the east property line.

Equipment is to be an industrial tractor with frontent loader. A dragline will be brought in as needed to dig the trenches.

Salvaging and scavenging operations will not be permitted. An outside toilet will be constructed.

Location is shown on the attached County Road Map. Legal description: NW  $\frac{1}{4}$  of Sec 25, T30N, R2W, Pulaski County Indiana, West of the inter- section of County Road 50E and 200S.

See proposed plan lay out for land fill site. Private homes are located on east side of county road 50E. The east side of the proposed land fill site will be a minimum of 600 feet from the county road 50E. The west side of the proposed site will be at least 700 feet east of State Road 119. There are no industrial or commercial sites in the area. Operations will begin along the west side of the proposed site 1350 feet west of county road 50E. The purpose of starting along the West side of the site is to permit sufficient time for the screening material to become established.

The proposed screen planting will be located between the north property line and the proposed access road; and along county road 50E. The suggested material is as follows:

One row of white pines on eight foot spacing.  
One row of Autumn Olive on four foot spacing.

As previously noted the operations will start on the west side to allow sufficient time for the screening material to become established.

The trenches will be located in the central part of the ridge. The surface runoff will follow its normal drainage pattern to either the east or west away from the proposed landfill area. Therefore no surface water should enter the trench as runoff and cause the trench to become full of water. After completion the trench will be filled above normal ground elevation with a gentle slope in both directions so as to impound no water. As mentioned before, as each trench is completed it will be seeded with an alfalfa-brome grass mixture.

The only known field tile would be in the Brookston loam (Bn) and Carlisle muck (Ca). The tile, if present, in the Carlisle muck does not appear to be operating. The existing tile appears to be more than 50 feet away from the proposed site.

There is no possibility of this area becoming flooded. It is a well drained area and outside of a flood plain.

The unified soil classification is as follows for the soils within the area:

Soil name & Symbol	Sanitary Landfill Limitation	Depth from surface	Unified soil class
Celina CeA,	Slight	0-14	SM or ML
CeB2,		14-21	ML or CL
CbA,		21-37	CL
CbB2,		37-144	ML

Soil name & Symbol	Sanitary Landfill limitation	Depth from surface	Unified soil class
Metea      MeA, MIA	Slight	0-32	SM or SP
		32-44	CL
		44-144	ML
Miami      MmB2	Slight	0-18	SM or ML
		8-36	CL
		36-144	ML

Depressional soils west of the proposed land fill site indicate that the seasonal high water table would be deep enough to permit a 10 foot trench. Pockets of sand and gravel may be encountered in the underlying material; but sufficient clay ~~###~~ would be available to contain the leachates.

On May 15, 1970, after approximately 6 inches of rain had fallen the previous week this site was evaluated with respect to soil moisture conditions. The general field conditions were found to be extremely wet throughout the county. In most low areas of the county water could be found ponded on the surface and generally the county was rather "muddy". But on the Larkin farm water could only be found on the Carlisle muck which is located in the northwest corner of the farm. Even the poorly drained Brookston soils were only moist on the surface and saturated with water below 10 inches. The somewhat poorly drained soils were moist throughout but these soils were found to contain no excess water anywhere within 60 inches.

It was found that the seasonal high water table would appear to be within six to ten inches of the surface of the Brookston and Carlisle soils. But even then, the soils with a slight limitation would have given approximately ten feet of working depth for the landfill and still have been above the seasonal high water table. Under these wet spring conditions, it would appear that if a high ~~#####~~ seasonal ground water table was to be a problem; it would most certainly have existed under these very wet conditions that existed in May, 1970.

Estimated cost of operating the landfill site is \$20,000 to \$25,000 annually.

Owner is William Larkin, R R 2 Winamac, Indiana 46996

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SANITARY ENGINEERING DIVISION

Kinds of soils on this Land

Carlisle muck - Ca  
Dumas muck - Ta  
Burdston silt loam - Bc  
Burdston loam - Bn  
Rearcher loam - Re  
Abcota fine sandy loam - Ab  
Stean loam - So  
(Maumee fine sandy loam - Ma

Stifford fine sandy loam - Sf  
Conover loam - CoA  
Crosby loam - CtA  
Auburnsable fine sandy loam AuA  
Celina loam - CeA, CeB2  
Celina fine sandy loam - CeA, CeB2  
Mellea heavy fine sand - M1A, M1B  
Miami fine sandy loam - MmB2

Explanation of "Degree of Limitations"

Slight - relatively few of limitations or limitations are easily overcome.

Moderate - limitations need to be recognized, but can be overcome with good management and careful design.

Some - limitations are severe enough to make use questionable.

Very severe - extreme measures are needed to overcome the limitations and usage generally is unsound or not practical.

EXPLANATION OF THE SOIL MAP  
(for non-agricultural uses)

Your land is the foundation of your conservation plan. Plan it within its limitations and treat it according to its needs. The Soil Conservation Service and your Soil and Water Conservation District will help you use this information to develop a conservation plan for your land.

The soil map shows important facts about your land. This information should help you decide on the land use and treatment needs.

Degree of Limitations

- slight Relatively free of limitations or with limitations that are easy to overcome.
- moderate Limitations need to be recognized; can be overcome with correct planning, proper treatment and good management.
- severe Limitations are severe enough to make use questionable; careful planning, proper treatment and above average management are needed.
- very severe Extreme measures are needed to overcome limitations; usage is generally not practical.

Mapping Symbol and Soil Series	Land Use					
	Sanitary Landfill					
Gilford fine sandy loam Gf	Severe <span style="background-color: #DC143C; padding: 2px;">Severe</span>					
Conover loam CnA	Moderate <span style="background-color: #FFD700; padding: 2px;">Moderate</span>					
Crosby loam CtA	Moderate <span style="background-color: #FFD700; padding: 2px;">Moderate</span>					
Aubbeenaubee fine sandy loam AuA	Moderate <span style="background-color: #FFD700; padding: 2px;">Moderate</span>					
Celina loam CaA, CaB2	Slight <span style="background-color: #3CB371; padding: 2px;">Slight</span>					
Celina fine sandy loam CbA, CbB2	Slight <span style="background-color: #3CB371; padding: 2px;">Slight</span>					
Metea loamy fine sand M1A, M1B	Slight <span style="background-color: #3CB371; padding: 2px;">Slight</span>					
Miami fine sandy loam MmB2	Slight <span style="background-color: #3CB371; padding: 2px;">Slight</span>					



Description of Soils and Explanation of "degree of limitations"

Kinds of Soils on this Land

\* No slope letter means "A" slope.  
 \*\* No erosion figure means "0" erosion.

- 0 - No apparent
- 1 - Slight
- 2 - Moderate
- 3 - Severe
- 4 - Very Severe

Degree of Erosion

Slope (in per cent)	Degree of Erosion	Soil Type	Soil Description
0-2	A	nearly level	very steep
2-6	B	gently sloping	steep
6-12	C	sloping	strongly sloping
12-18	D		
18-25	E		
25-50	F		

Slope (in per cent)

An example:

Mapping symbols on the map show the soil type, slope\*, and erosion\*\*.

EXPLANATION OF THE SOIL MAP  
(for non-agricultural uses)

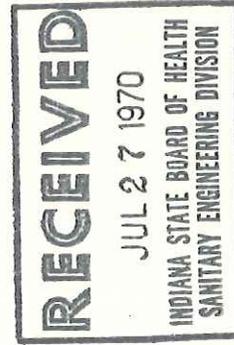
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- very severe Extreme measures are needed to overcome limitations; usage is generally not practical.

Mapping Symbol and Soil Series	Land Use					
	Sanitary Landfill					
Carlisle muck Ca	Very Severe					
Tawas muck Ta	Very Severe					
Brookston silt loam Br	Severe					
Brookston loam Br	Severe					
Rensselaer loam Re	Severe					
Abscota fine sandy loam Ab	Severe					
Sloan loam So	Severe					
Maunee fine sandy loam Ma	Severe					



Description of Soils and Explanation of "degree of limitations"

Kinds of Soils on this Land

\* No slope letter means "A" slope.  
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- Degree of Erosion
- 0 - No apparent
  - 1 - Slight
  - 2 - Moderate
  - 3 - Severe
  - 4 - Very Severe

Slope (in per cent)		Degree of Erosion	
A	0-2	D	12-18
B	2-6	E	18-25
C	6-12	F	25-50

An example:

Mapping symbols on the map show the soil type, slope%, and erosion\*\*.

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SANITARY ENGINEERING DIVISION

**CONSERVATION PLAN MAP**



UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

cooperating with

Pulaski Co Soil & Water

Conservation District

Owner Wm Larkin & Pulaski Co. Commissioners

Plan No. \_\_\_\_\_

Date 7-70

Operator Wm Larkin

Scale 1" = 400'

Acres 160

Approximate

Pulaski

County

Ind

State

Photo No. \_\_\_\_\_

trench layout

Approx 16 acres

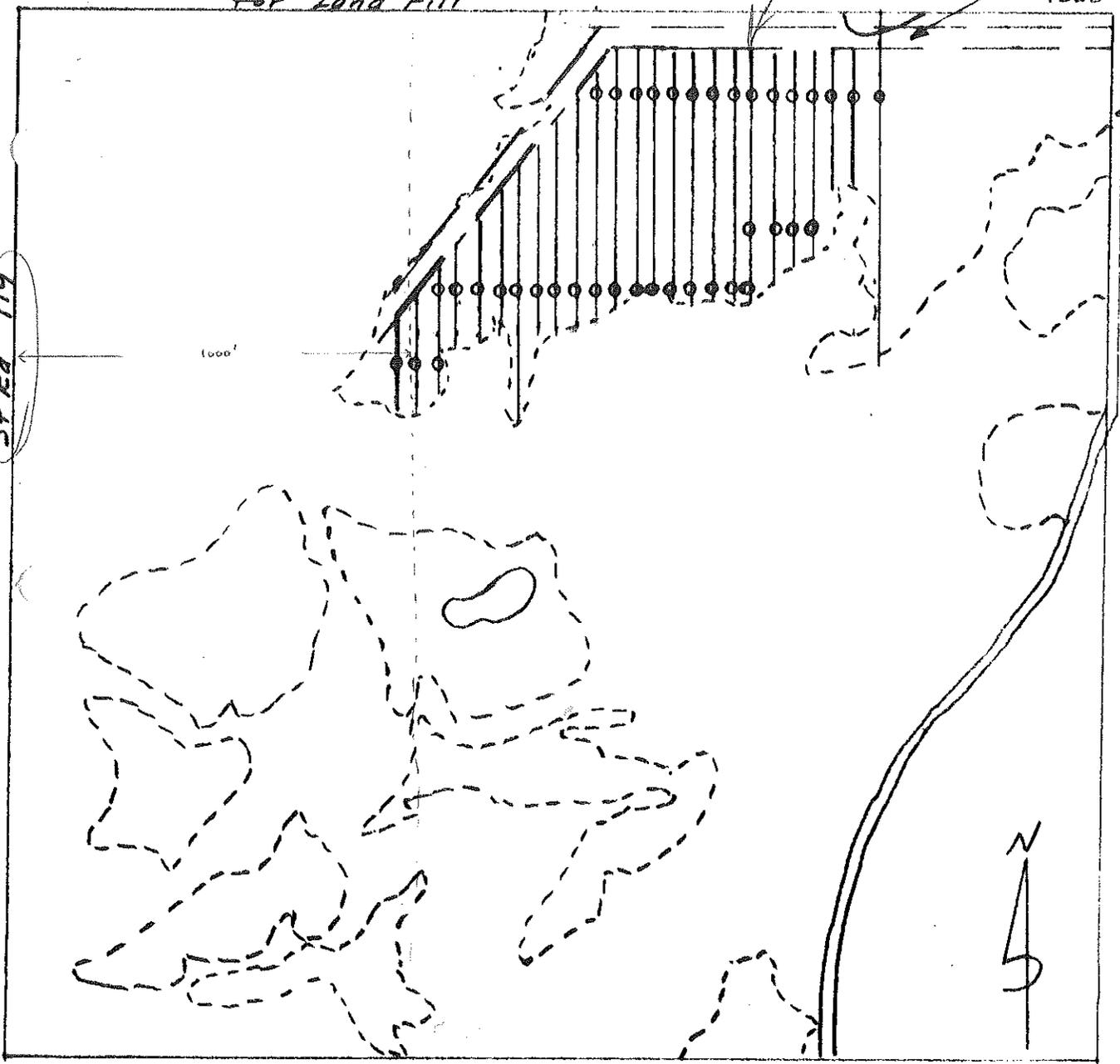
--- Soil Boundary with slight Limitation for Load Fill

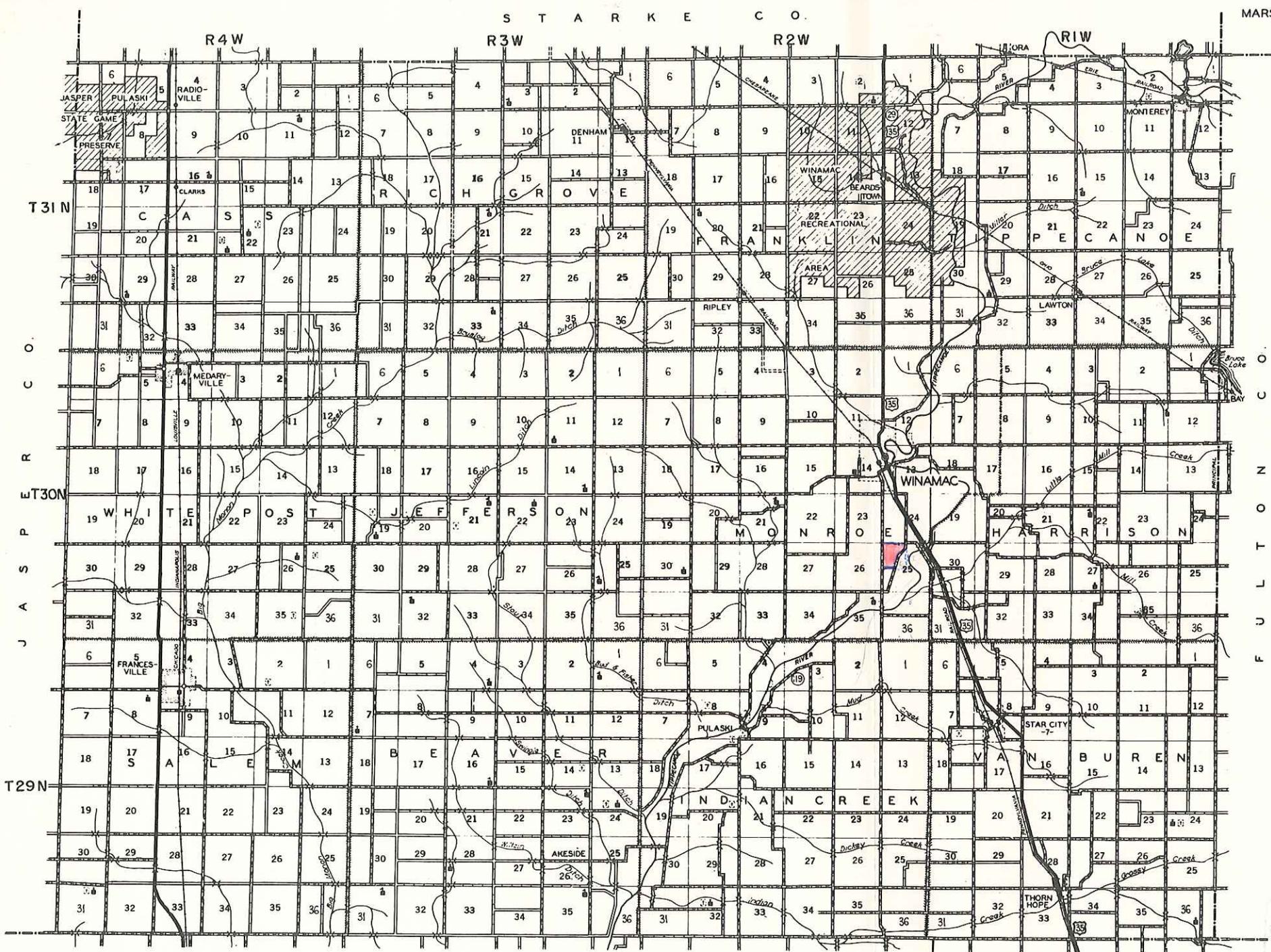
access Road

Co Rd 50E

1000'

54 Rd 119

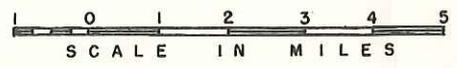




LOCATION IN INDIANA

*NW 1/4 of Sec 25 T30N, R2W*

W H I T E C O . C A S S C O .



Total acreage approximate 277,120  
 Acreage in farms 255,794

**PULASKI COUNTY SOIL CONSERVATION DISTRICT**

The District includes all of Pulaski County

U.S.D.A., Soil Conservation Service, Milwaukee, 1952

Prepared by the Cartographic Division, Soil Conservation Service, Cooperating with the District Governing Body.

UNINCORPORATED TOWN  
PULASKI COUNTY  
INDIANA  
LOCATED IN SECTION  
28, 29, 32, 33  
T31N, R2W

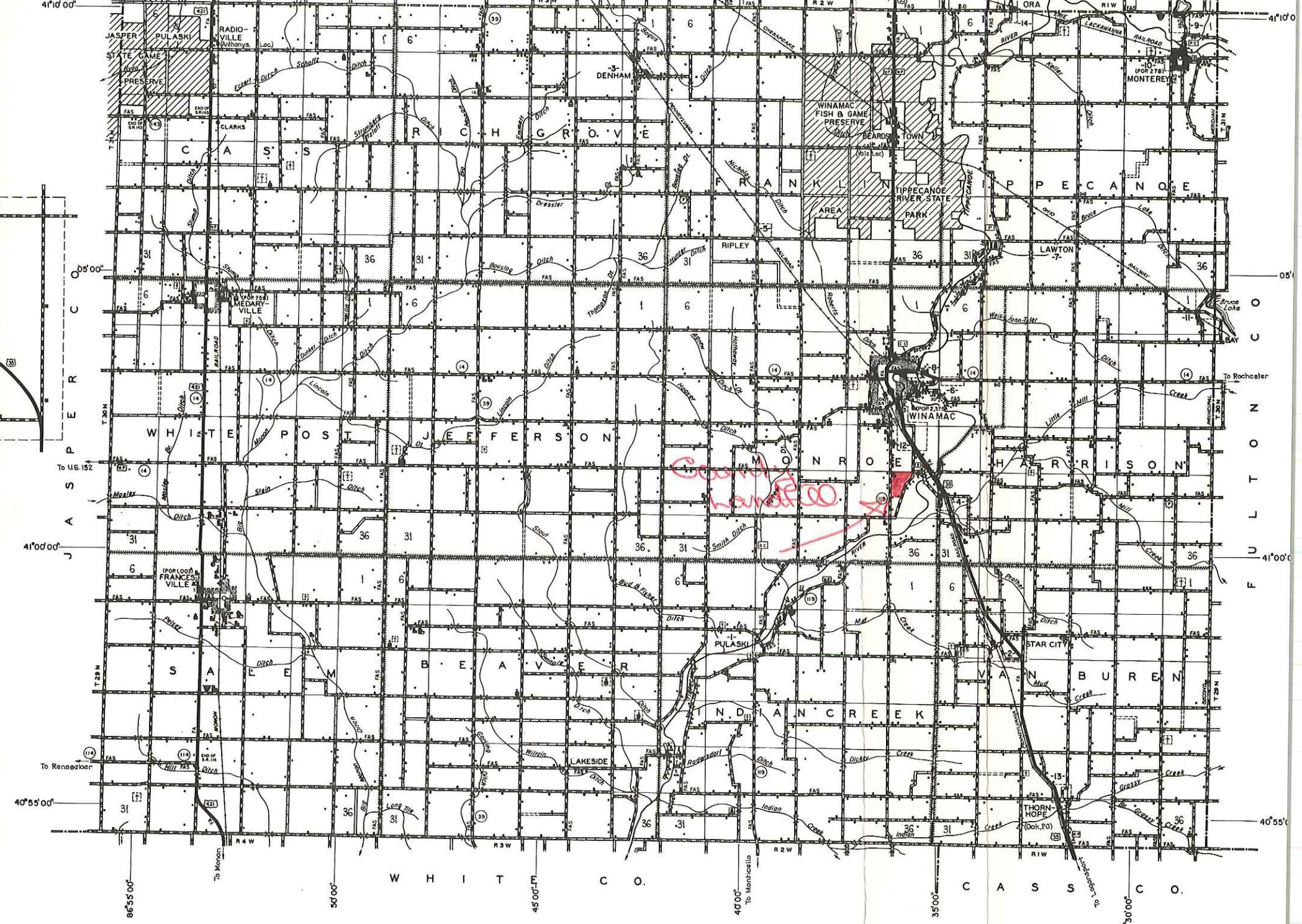
UNINCORPORATED AREA  
PULASKI COUNTY  
INDIANA  
LOCATED IN SECTION  
7, 8, 9  
T30N, R1W

UNINCORPORATED TOWN  
PULASKI COUNTY  
INDIANA  
LOCATED IN SECTION  
27, 28  
T31N, R1W

UNINCORPORATED AREA  
PULASKI COUNTY  
INDIANA  
LOCATED IN SECTION  
12  
T30N, R2W

INSET NO. 4  
UNINCORPORATED AREA  
PULASKI COUNTY  
INDIANA  
LOCATED IN SECTION 30  
T30N, R1W

INSET NO. 8  
UNINCORPORATED AREA  
PULASKI COUNTY  
INDIANA  
LOCATED IN SECTION  
12  
T30N, R2W

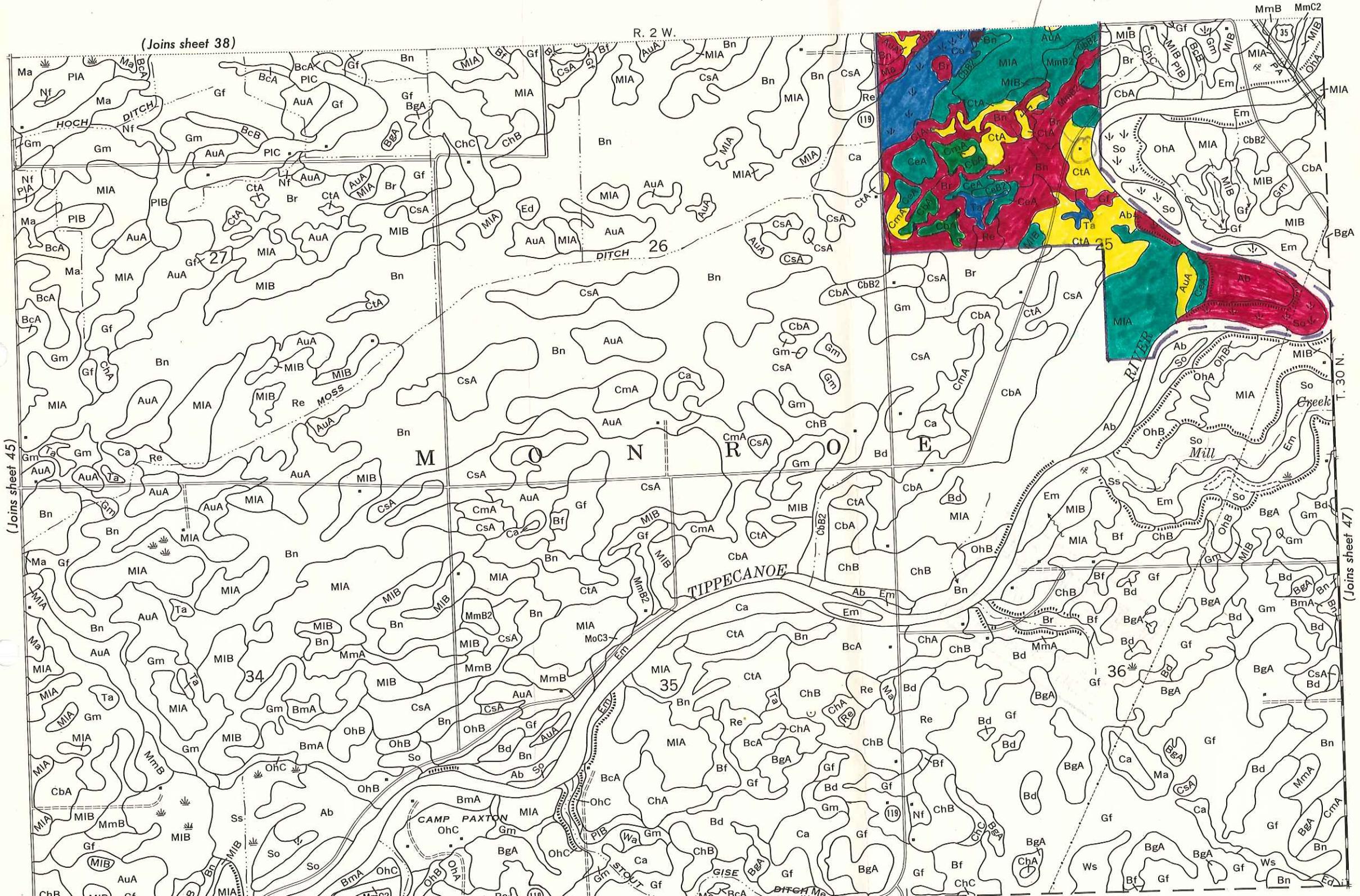


- BOUNDARY
- SHIP LINE
- LINE
- NAL TOWNSHIP LINE
- NE
- DAD LAND SECTION
- BOUNDARY (NAME SHOWN)
- BT OR STATE GAME PRESERVE BOUNDARY
- MARK BOUNDARY (NAME SHOWN)
- POST OFFICE
- COMBINED DWELLING, BUSINESS, AND POST OFFICE
- COMBINED DWELLING AND STORE
- FIRE ENGINE HOUSE
- BOOSTER STATION
- HIGHWAY GARAGE
- TOURIST COURT OR MOTEL
- COUNTY FARM
- GRAVEL PIT
- NURSERY
- TOWNSHIP GRANGE OR COMMUNITY HALL

STARKE  
PULASKI

46

*Forbin residence*



(Joins sheet 38)

R. 2 W.

MmB MmC2

27

26

RIVER

TIPPECANOE

M O N R O E

T. 30 N.

(Joins sheet 45)

34

35

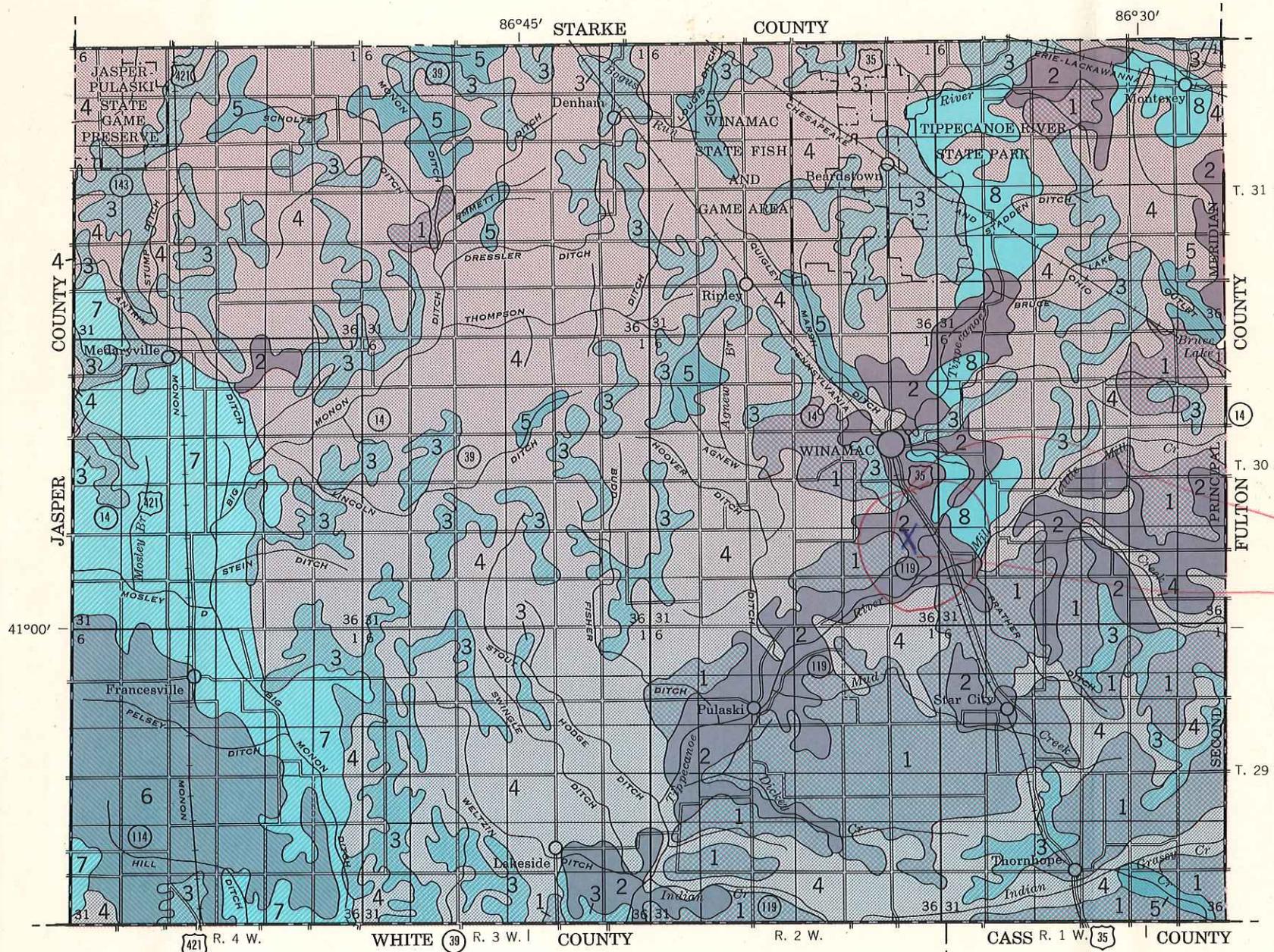
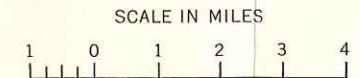
36

(Joins sheet 47)

CAMP PAXTON

GISE

# GENERAL SOIL MAP PULASKI COUNTY, INDIANA



## SOIL ASSOCIATIONS

- 

Brookston-Crosby-Abbeenaubee association: Deep, dark colored and moderately dark colored, very poorly drained and somewhat poorly drained, nearly level and gently sloping soils that formed in loamy till
- 

Miami-Metea-Celina association: Deep, light-colored and moderately dark colored, well drained and moderately well drained, nearly level to moderately sloping soils that formed in loamy till
- 

Plainfield-Chelsea-Berrien association: Deep, moderately dark colored, well drained and moderately well drained, nearly level to steep sandy soils on ridges
- 

Maumee-Newton-Gilford-Rensselaer association: Deep, dark-colored, very poorly drained, nearly level soils in depressions on outwash plains
- 

Carlisle-Tawas-Edwards association: Dark-colored, very poorly drained, nearly level soils that formed in deep organic deposits or on shallow organic deposits underlain by coarse-textured material or marl
- 

Brookston-Odell-Corwin association: Deep, dark-colored, very poorly drained, somewhat poorly drained, and moderately well drained, nearly level soils that formed in loamy till
- 

Rensselaer-Montgomery association: Deep, dark-colored, very poorly drained, nearly level soils on lake plains
- 

Oshtemo-Bronson association: Deep, moderately dark colored, well drained and moderately well drained, nearly level to moderately sloping soils on outwash terraces