

AREA PLAN COMMISSION

OF TIPPECANOE COUNTY

20 NORTH 3RD STREET
LAFAYETTE, INDIANA 47901-1209

(765) 423-9242
(765) 423-9154 [FAX]
www.tippecanoe.in.gov/apc

SALLIE DELL FAHEY
EXECUTIVE DIRECTOR

Date: January 15, 2014

Re: RED FLAG INVESTIGATION
DES # TBD
South 9th Street
Four Lane Improvement
Lafayette, Tippecanoe County, Indiana

NARRATIVE

South 9th Street is a minor arterial and needs improving. The highest priority is the section from Twyckenham Boulevard to Veterans Memorial Parkway. There are several pedestrian and bicycle improvements in the corridor. A trail is planned from Twyckenham to Ortman and then sidewalks between Ortman and Veterans Memorial Parkway.

SUMMARY

INFRASTRUCTURE			
As identified below the following items of concern were found within ½ mile:			
Religious Facilities	N/A	Recreational Facilities	N/A
Airports	N/A	Pipelines	4
Cemeteries	1	Railroads	2
Hospitals	N/A	Trails	2
Schools	0 (see explanation)	Managed Lands	2

Fink Cemetery is the only cemetery within ½ mile of the project. The cemetery is at the very edge of the buffer zone and not likely to be affected by construction.

Data provided by INDOT places three schools within ½ mile of the project. The schools are listed as Dayton United Methodist Church in Dayton, IN, Purdue University's Graduate School and schools of Lafayette School Corporation. None of the schools are actually located within the ½ mile buffer.

Four natural gas pipelines are shown within ½ mile of the project. The listed owner of all is Vectren. One pipeline runs parallel in close proximity to the project line and should be considered in the planning stages.

Two railroad lines are shown within ½ mile. The owner is Norfolk Southern. The lines pass diagonally roughly 700 feet north of the project line. They are not likely to be affected.

The Armstrong Park trail and a rail trail between Beck and South 18th are the only trail facilities shown within ½ mile of the project. Neither is likely to be affected by construction.

Armstrong Park and Bishop Woods are the only managed lands areas in the ½ mile radius. Both are more than 1,000 feet north of the project and are unlikely to be affected.

WATER RESOURCES			
As identified below the following items of concern were found within ½ mile:			
NWI - Points	N/A	NWI - Wetlands	6
Karst Springs	N/A	IDEM 303d Listed Lakes	N/A
Canal Structures – Historic	N/A	Lakes	4
NWI - Lines	N/A	Floodplain - DFIRM	25
IDEM 303d Listed Rivers and Streams (Impaired)	1	Cave Entrance Density	N/A
Rivers and Streams	3	Sinkhole Areas	N/A
Canal Routes - Historic	N/A	Sinking-Stream Basins	N/A

Elliott Ditch is the only impaired stream in the ½ mile buffer area. Elliott Ditch and two tributaries form the three rivers indicated within ½ mile of the project. Elliott Ditch crosses the project area perpendicularly and will be affected by any construction.

All six wetland areas were associated with the four identified lakes. Three of the lakes are in housing developments. The last is the lake at Armstrong Park. One wetland area at the northern terminus of the project is shown as within 200 feet of the project. This area is the only one likely to be affected by construction.

The designated floodplain within ½ mile is concentrated around Elliott Ditch. Flood zones are either 0.2% annual chance of flood hazard or AE, meaning the area has been studied and likely has base flood elevation information. The floodplain will be affected by construction as it runs perpendicularly through the project area.

MINING/MINERAL EXPLORATION			
As identified below the following items of concern were found within ½ mile:			
Petroleum Wells	N/A	Petroleum Fields	N/A
Mines – Surface	N/A	Mines – Underground	N/A

No mining or mineral exploration occurs within ½ mile of the project area.

HAZMAT CONCERNS			
As identified below the following items of concern were found within ½ mile:			
Brownfield Sites	N/A	Restricted Waste Sites	N/A
Corrective Action Sites (RCRA)	N/A	Septage Waste Sites	N/A
Confined Feeding Operations	N/A	Solid Waste Landfills	N/A
Construction Demolition Waste	N/A	State Cleanup Sites	N/A
Industrial Waste Sites (RCRA Generators)	N/A	Tire Waste Sites	N/A
Infectious/Medical Waste Sites	N/A	Waste Transfer Stations	N/A
Lagoon/Surface Impoundments	N/A	RCRA Waste Treatment, Storage, and Disposal Sites (TSDs)	N/A

Leaking Underground Storage Tanks (LUSTs)	N/A	Underground Storage Tanks	1
Manufactured Gas Plant Sites	N/A	Voluntary Remediation Program	1
NPDES Facilities	N/A	Superfund	N/A
NPDES Pipe Locations	N/A	Institutional Control Sites	N/A
Open Dump Sites	N/A	Other (see explanation)	2

Provided data indicates one underground storage tank at CM Kerlin Elevator, Inc., however, its location is suspect.

One voluntary remediation site is listed at Lafayette Bottled Gas Company, Inc., ½ mile to the north.

Two otherwise undefined sites are indicated within the ½ mile buffer. They are identified as “spills,” one in a field tile and the other on 9th Street. No hazmat concerns are within 500 feet of the project area. Extraordinary precautions are not likely to be needed during construction.

Ecological Information

The Tippecanoe County listing of the Indiana Natural Heritage Data Center information on endangered, threatened, or rare (ETR) species and high quality natural communities is attached. The ETR species on the state or federal registers are highlighted.

Cultural Resources

No state- or federally-registered historic structures or districts within ½ mile of the project.

RECOMMENDATIONS

INFRASTRUCTURE: Coordination with Vectren will be needed. Given the close proximity of a gas line to the project area early contact is required.

WATER RESOURCES: Coordination with IDEM, IDNR or the COE will be necessary as the floodplain directly crosses the project line. The floodplain relates to a listed tainted stream and care should be taken to minimize disruption. The wetland at the project’s north end should be preserved to the extent possible.

MINING/MINERAL EXPLORATION: N/A

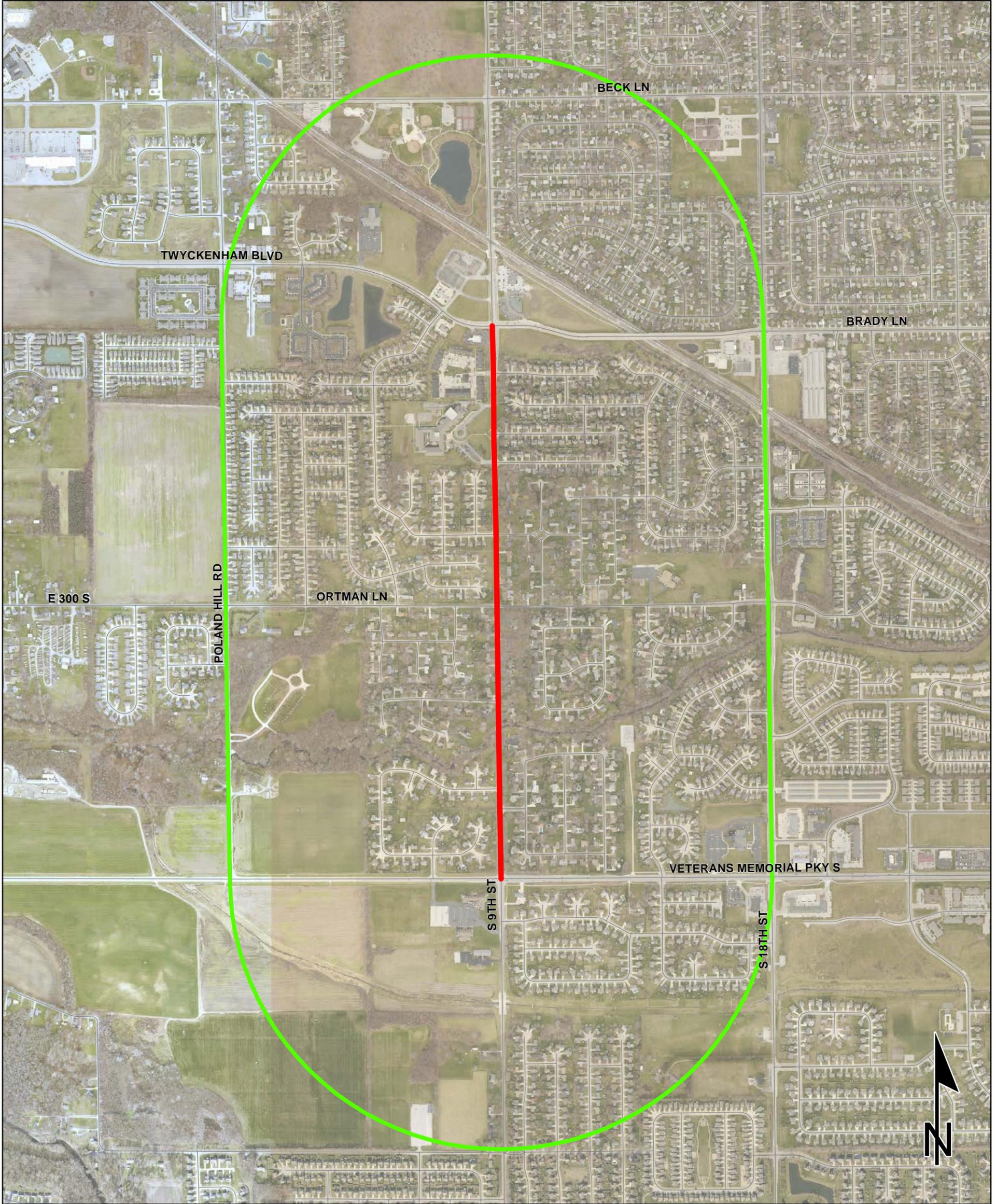
HAZMAT CONCERNS: N/A

ECOLOGICAL INFORMATION: N/A

CULTURAL RESOURCES: N/A

Prepared by:
 Anna Burman
 Transportation GIS Specialist
 Area Plan Commission of Tippecanoe County

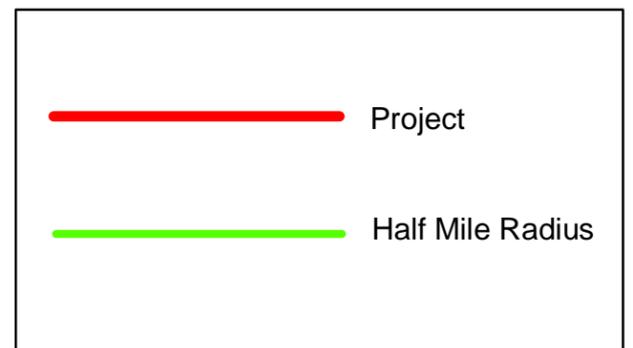
PROJECT AREA
South 9th Street
Des. No. TBD, 4 Lane Widening
Tippecanoe County, Indiana



Sources:
Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83



Project Area Map



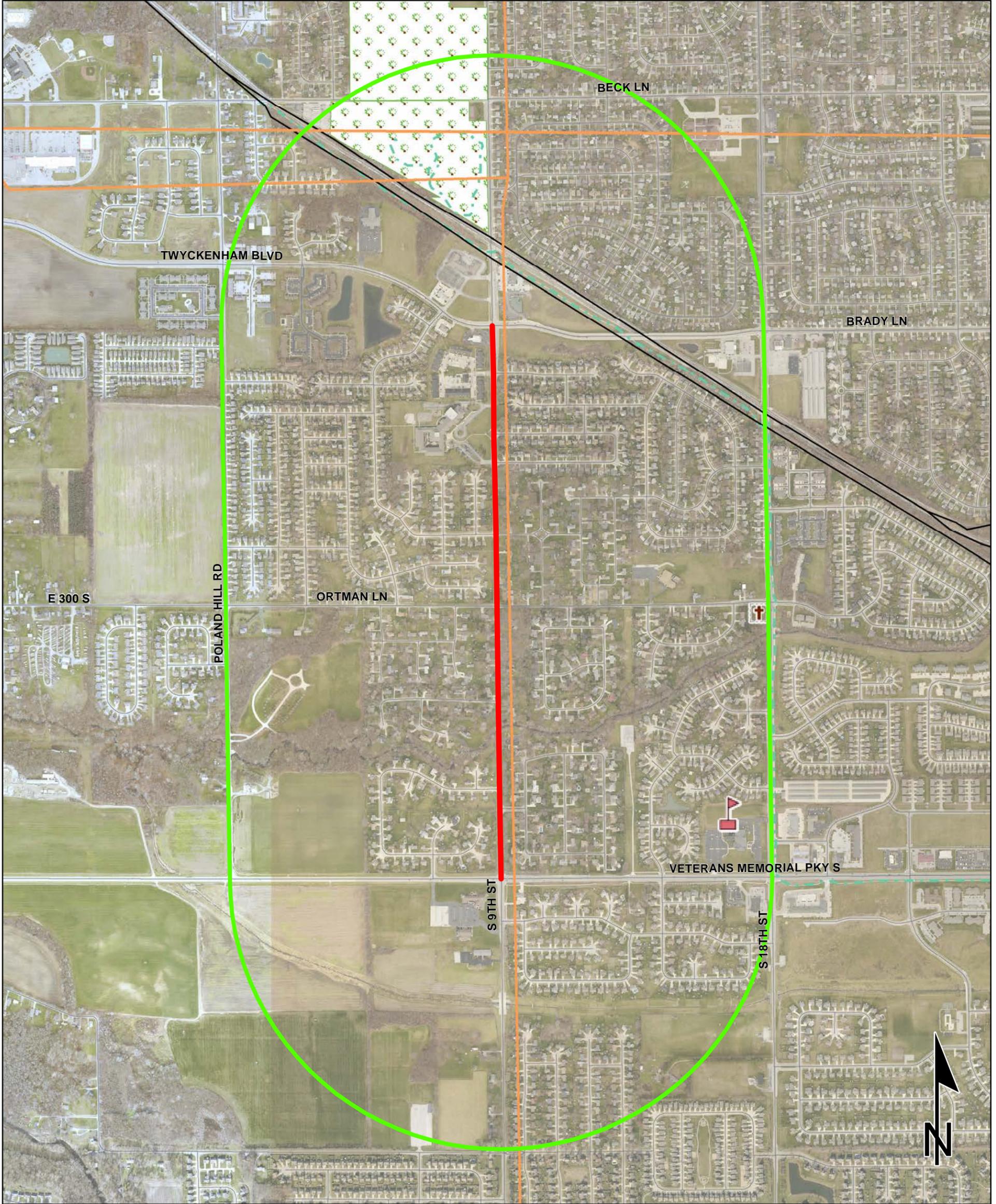
This map is intended to serve as an aid in graphic representation only and was provided by INDOT. This information is not warranted for accuracy or other purposes.

INFRASTRUCTURE

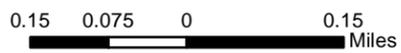
South 9th Street

Des. No. TBD, 4 Lane Widening

Tippecanoe County, Indiana



Sources:
Non Orthophotography Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83



This map is intended to serve as an aid in graphic representation only and was provided by INDOT. This information is not warranted for accuracy or other purposes.

Infrastructure Legend

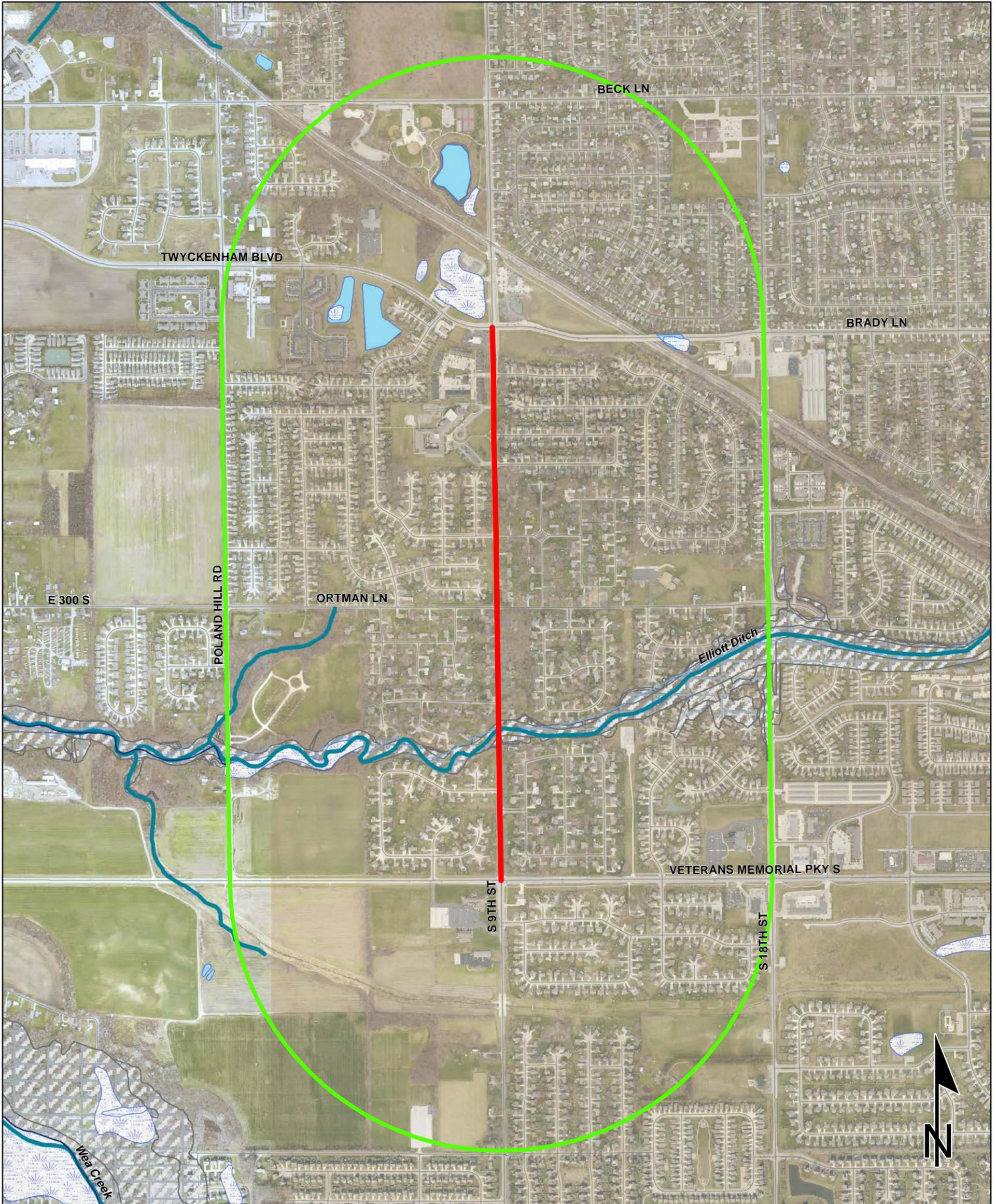
Religious Bldg	Recreation	Project Area
Religious Bldg	Pipeline	Half Mile Radius
Airport	Railroad	Interstate
Cemeteries	Trails	State Route
Hospital	Managed Lands	US Route
School	County Boundary	Local Road

WATER RESOURCES

South 9th Street

Des. No. TBD, 4 Lane Widening

Tippecanoe County, Indiana



Sources:
Non Orthophotography
Data - Obtained from the State of Indiana Geographical Information Office Library
Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)
Map Projection: UTM Zone 16 N **Map Datum:** NAD83



Water Resources Legend

NWI - Point	Wetlands	Project Area
Canal Structure - Historic	Lake - Impaired	Half Mile Radius
NWI- Line	Lake	Interstate
Stream - Impaired	Floodplain - DFIRM	State Route
NPS NRI listed	County Boundary	US Route
River		Local Road
Canal Route - Historic		

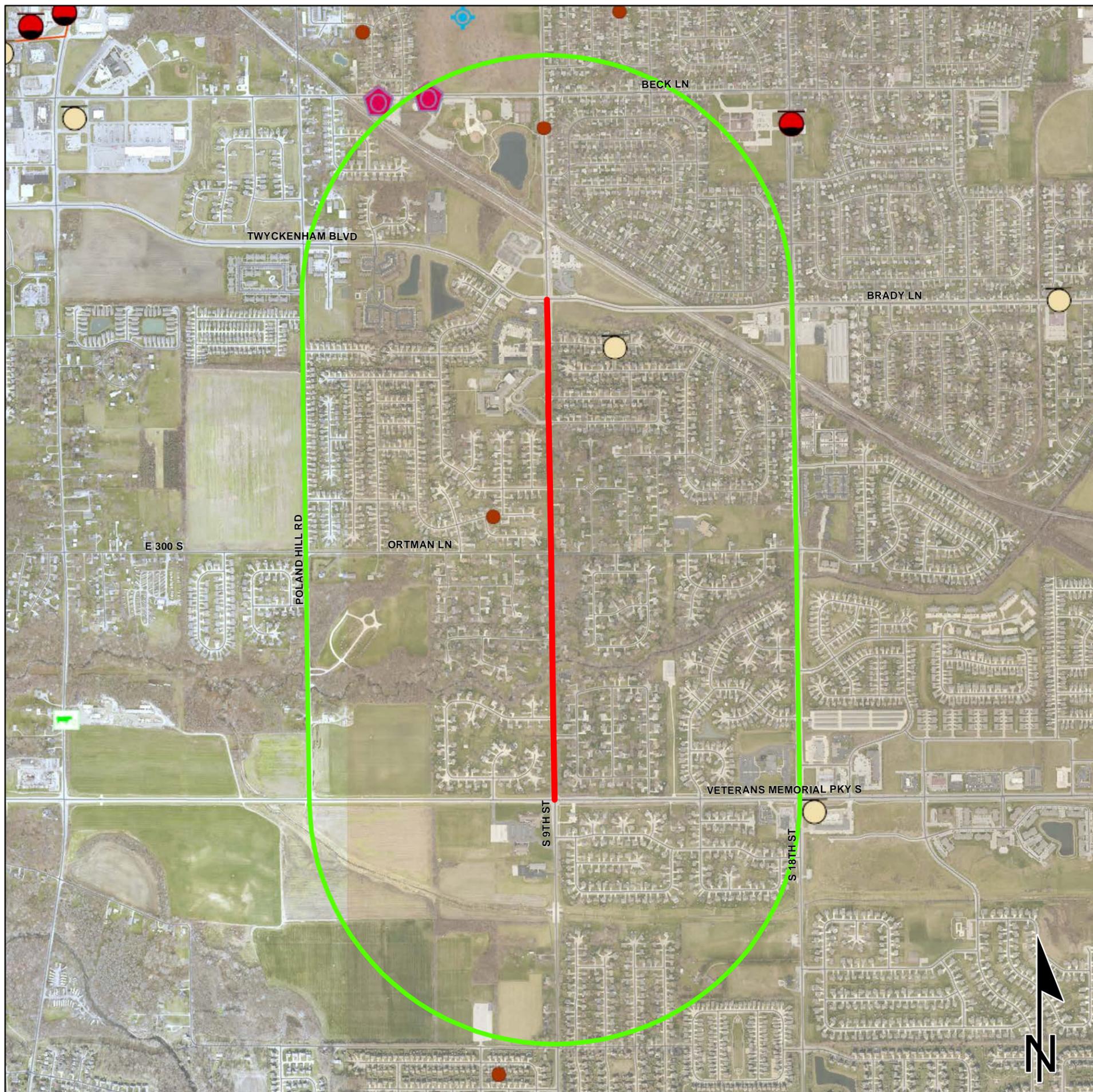
This map is intended to serve as an aid in graphic representation only and was provided by INDOT. This information is not warranted for accuracy or other purposes.

HAZMAT CONCERNS

South 9th Street

Des. No. TBD, 4 Lane Widening

Tippecanoe County, Indiana



HazMat Concerns Legend

	Brownfield		Restricted Waste Site		Institutional Controls
	RCRA Corrective Action Sites		Septage Waste Site		County Boundary
	Confined Feeding Operation		Solid Waste Landfill		Project Area
	Construction/Demolition Site		State Cleanup Site		Half Mile Radius
	Leaking Underground Storage Tank		Superfund		Interstate
	Manufactured Gas Plant		Tire Waste Site		State Route
	NPDES Facilities		Underground Storage Tank		US Route
	NPDES Pipe Locations		Unspecified Spill		Local Road
	Open Dump Waste Site		Voluntary Remediation Program		
	RCRA Generator/TSD		Waste Transfer Station		

Sources:

Non Orthophotography

Data - Obtained from the State of Indiana Geographical Information Office Library

Orthophotography - Obtained from Indiana Map Framework Data (www.indianamap.org)

This map is intended to serve as an aid in graphic representation only and was provided by INDOT.

This information is not warranted for accuracy or other purposes.

Map Projection: UTM Zone 16 N **Map Datum:** NAD83



Indiana County Endangered, Threatened and Rare Species List

County: Tippecanoe

Species Name	Common Name	FED	STATE	GRANK	SRANK
Mollusk: Bivalvia (Mussels)					
Cyprogenia stegaria	Eastern Fanshell Pearlymussel	LE	SE	G1Q	S1
Epioblasma torulosa rangiana	Northern Riffleshell	LE	SE	G2T2	SX
Epioblasma torulosa torulosa	Tubercled Blossom	LE	SE	G2TX	SX
Epioblasma triquetra	Snuffbox	LE	SE	G3	S1
Fusconaia subrotunda	Longsolid		SE	G3	SX
Lampsilis fasciola	Wavyrayed Lampmussel		SSC	G5	S3
Lampsilis ovata	Pocketbook			G5	S2
Leptodea leptodon	Scaleshell	LE	SX	G1G2	SX
Ligumia recta	Black Sandshell			G5	S2
Obovaria retusa	Ring Pink	LE	SX	G1	SX
Obovaria subrotunda	Round Hickorynut		SSC	G4	S1
Plethobasus cicatricosus	White Wartyback	LE	SE	G1	SX
Plethobasus cyphus	Sheepnose	LE	SE	G3	S1
Pleurobema clava	Clubshell	LE	SE	G2	S1
Pleurobema cordatum	Ohio Pigtoe		SSC	G4	S2
Pleurobema plenum	Rough Pigtoe	LE	SE	G1	S1
Pleurobema rubrum	Pyramid Pigtoe		SE	G2G3	SX
Potamilus capax	Fat Pocketbook	LE	SE	G1G2	S1
Ptychobranhus fasciolaris	Kidneyshell		SSC	G4G5	S2
Quadrula cylindrica cylindrica	Rabbitsfoot	C	SE	G3G4T3	S1
Simpsonaias ambigua	Salamander Mussel		SSC	G3	S2
Toxolasma lividus	Purple Lilliput		SSC	G3	S2
Villosa fabalis	Rayed Bean	LE	SSC	G2	S1
Insect: Coleoptera (Beetles)					
Lissobiops serpentinus	A Rove Beetle		SE	GNR	S1
Insect: Ephemeroptera (Mayflies)					
Paracloeodes minutus	A Small Minnow Mayfly		SR	G5	S2
Insect: Lepidoptera (Butterflies & Moths)					
Speyeria idalia	Regal Fritillary		SE	G3	S1
Insect: Mecoptera					
Merope tuber	Earwig Scorpionfly		SE	G3G5	S1
Insect: Odonata (Dragonflies & Damselflies)					
Erpetogomphus designatus	Eastern Ringtail		ST	G5	S2
Somatochlora tenebrosa	Clamp-tipped Emerald		SR	G5	S2S3
Fish					
Etheostoma tippecanoe	Tippecanoe Darter		SSC	G3G4	S3
Amphibian					
Hemidactylum scutatum	Four-toed Salamander		SSC	G5	S2

Indiana Natural Heritage Data Center
Division of Nature Preserves
Indiana Department of Natural Resources
This data is not the result of comprehensive county surveys.

Fed: LE = Endangered; LT = Threatened; C = candidate; PDL = proposed for delisting
State: SE = state endangered; ST = state threatened; SR = state rare; SSC = state species of special concern; SX = state extirpated; SG = state significant; WL = watch list
GRANK: Global Heritage Rank: G1 = critically imperiled globally; G2 = imperiled globally; G3 = rare or uncommon globally; G4 = widespread and abundant globally but with long term concerns; G5 = widespread and abundant globally; G? = unranked; GX = extinct; Q = uncertain rank; T = taxonomic subunit rank
SRANK: State Heritage Rank: S1 = critically imperiled in state; S2 = imperiled in state; S3 = rare or uncommon in state; G4 = widespread and abundant in state but with long term concern; SG = state significant; SH = historical in state; SX = state extirpated; B = breeding status; S? = unranked; SNR = unranked; SNA = nonbreeding status unranked

Indiana County Endangered, Threatened and Rare Species List

County: Tippecanoe

Species Name	Common Name	FED	STATE	GRANK	SRANK	
Reptile						
<i>Clemmys guttata</i>	Spotted Turtle		SE	G5	S2	
<i>Emydoidea blandingii</i>	Blanding's Turtle		SE	G4	S2	
<i>Liochlorophis vernalis</i>	Smooth Green Snake		SE	G5	S2	
<i>Terrapene carolina carolina</i>	Eastern Box Turtle		SSC	G5T5	S3	
<i>Terrapene ornata ornata</i>	Ornate Box Turtle		SE	G5T5	S1	
Bird						
<i>Aimophila aestivalis</i>	Bachman's Sparrow			G3	SXB	
<i>Ammodramus henslowii</i>	Henslow's Sparrow		SE	G4	S3B	
<i>Ardea herodias</i>	Great Blue Heron			G5	S4B	
<i>Asio flammeus</i>	Short-eared Owl		SE	G5	S2	
<i>Asio otus</i>	Long-eared Owl			G5	S2	
<i>Aythya collaris</i>	Ring-necked Duck			G5	SHB	
<i>Bartramia longicauda</i>	Upland Sandpiper		SE	G5	S3B	
<i>Botaurus lentiginosus</i>	American Bittern		SE	G4	S2B	
<i>Buteo platypterus</i>	Broad-winged Hawk	No Status	SSC	G5	S3B	
<i>Carduelis pinus</i>	Pine Siskin			G5	S3N	
<i>Cistothorus platensis</i>	Sedge Wren		SE	G5	S3B	
<i>Dendroica cerulea</i>	Cerulean Warbler		SE	G4	S3B	
<i>Falco peregrinus</i>	Peregrine Falcon	No Status	SE	G4	S2B	
<i>Grus canadensis</i>	Sandhill Crane	No Status	SSC	G5	S2B,S1N	
<i>Haliaeetus leucocephalus</i>	Bald Eagle	LT,PDL	SSC	G5	S2	
<i>Ixobrychus exilis</i>	Least Bittern		SE	G5	S3B	
<i>Lanius ludovicianus</i>	Loggerhead Shrike	No Status	SE	G4	S3B	
<i>Nycticorax nycticorax</i>	Black-crowned Night-heron		SE	G5	S1B	
<i>Rallus elegans</i>	King Rail		SE	G4	S1B	
<i>Sturnella neglecta</i>	Western Meadowlark		SSC	G5	S2B	
<i>Tyto alba</i>	Barn Owl		SE	G5	S2	
Mammal						
<i>Corynorhinus rafinesquii</i>	Rafinesque's Big-eared Bat			SSC	G3G4	SH
<i>Geomys bursarius</i>	Plains Pocket Gopher			SSC	G5	S2
<i>Lasiurus borealis</i>	Eastern Red Bat			SSC	G5	S4
<i>Mustela nivalis</i>	Least Weasel			SSC	G5	S2?
<i>Myotis septentrionalis</i>	Northern Myotis			SSC	G4	S3
<i>Myotis sodalis</i>	Indiana Bat or Social Myotis	LE	SE	G2	S1	
<i>Nycticeius humeralis</i>	Evening Bat		SE	G5	S1	
<i>Reithrodontomys megalotis</i>	Western Harvest Mouse			G5	S2	
<i>Spermophilus franklinii</i>	Franklin's Ground Squirrel		SE	G5	S2	
<i>Taxidea taxus</i>	American Badger		SSC	G5	S2	

Vascular Plant

Indiana Natural Heritage Data Center
Division of Nature Preserves
Indiana Department of Natural Resources
This data is not the result of comprehensive county surveys.

Fed: LE = Endangered; LT = Threatened; C = candidate; PDL = proposed for delisting
State: SE = state endangered; ST = state threatened; SR = state rare; SSC = state species of special concern; SX = state extirpated; SG = state significant; WL = watch list
GRANK: Global Heritage Rank: G1 = critically imperiled globally; G2 = imperiled globally; G3 = rare or uncommon globally; G4 = widespread and abundant globally but with long term concerns; G5 = widespread and abundant globally; G? = unranked; GX = extinct; Q = uncertain rank; T = taxonomic subunit rank
SRANK: State Heritage Rank: S1 = critically imperiled in state; S2 = imperiled in state; S3 = rare or uncommon in state; G4 = widespread and abundant in state but with long term concern; SG = state significant; SH = historical in state; SX = state extirpated; B = breeding status; S? = unranked; SNR = unranked; SNA = nonbreeding status unranked

Indiana County Endangered, Threatened and Rare Species List

County: Tippecanoe

Species Name	Common Name	FED	STATE	GRANK	SRANK
Androsace occidentalis	Western Rockjasmine		ST	G5	S2
Arenaria patula	Pitcher's Stitchwort		SE	G4	S1
Aster oblongifolius	Aromatic Aster		SR	G5	S2
Astragalus tennesseensis	Tennessee Milk-vetch		SRE	G3	SX
Bacopa rotundifolia	Roundleaf Water-hyssop		ST	G5	S1
Besseyia bullii	Kitten Tails		SE	G3	S1
Botrychium matricariifolium	Chamomile Grape-fern		SR	G5	S2
Botrychium simplex	Least Grape-fern		SE	G5	S1
Camassia angusta	Wild Hyacinth		SE	G5?Q	S1
Carex flava	Yellow Sedge		ST	G5	S2
Carex gravida	Heavy Sedge		SE	G5	S1
Chelone obliqua var. speciosa	Rose Turtlehead		WL	G4T3	S3
Chrysopsis villosa	Hairy Golden-aster		ST	G5	S2
Circaea alpina	Small Enchanter's Nightshade		SX	G5	SX
Cirsium hillii	Hill's Thistle		SE	G3	S1
Coeloglossum viride var. virescens	Long-bract Green Orchis		ST	G5T5	S2
Crataegus pedicellata	Scarlet Hawthorn		ST	G5	S2
Cypripedium candidum	Small White Lady's-slipper		WL	G4	S2
Eriophorum angustifolium	Narrow-leaved Cotton-grass		SR	G5	S2
Erysimum capitatum	Prairie-rocket Wallflower		ST	G5	S2
Euphorbia obtusata	Bluntleaf Spurge		SE	G5	S1
Gentiana alba	Yellow Gentian		SR	G4	S2
Houstonia nigricans	Narrowleaf Summer Bluets		SR	G5	S2
Linum sulcatum	Grooved Yellow Flax		SR	G5	S2
Lithospermum incisum	Narrow-leaved Puccoon		SE	G5	S1
Melampyrum lineare	American Cow-wheat		SR	G5	S2
Muhlenbergia cuspidata	Plains Muhlenbergia		SE	G4	S1
Napaea dioica	Glade Mallow		SR	G4	S2
Onosmodium hispidissimum	Shaggy False-gromwell		SE	G4	S1
Orobanche riparia	Bottomland Broomrape		SE	G5	S2
Oryzopsis racemosa	Black-fruit Mountain-ricegrass		SR	G5	S2
Panicum rigidulum var. pubescens	Long-leaved Panic-grass		SX	G5T5?	SX
Plantago cordata	Heart-leaved Plantain		SE	G4	S1
Poa paludigena	Bog Bluegrass		WL	G3	S3
Psoralea tenuiflora	Few-flowered Scurf-pea		SX	G5	SX
Sanguisorba canadensis	Canada Burnet		SE	G5	S1
Selaginella apoda	Meadow Spike-moss		WL	G5	S1
Silene regia	Royal Catchfly		ST	G3	S2
Trichostema dichotomum	Forked Bluecurl		SR	G5	S2
Viola pedatifida	Prairie Violet		ST	G5	S2

Indiana Natural Heritage Data Center
Division of Nature Preserves
Indiana Department of Natural Resources
This data is not the result of comprehensive county surveys.

Fed: LE = Endangered; LT = Threatened; C = candidate; PDL = proposed for delisting
State: SE = state endangered; ST = state threatened; SR = state rare; SSC = state species of special concern; SX = state extirpated; SG = state significant; WL = watch list
GRANK: Global Heritage Rank: G1 = critically imperiled globally; G2 = imperiled globally; G3 = rare or uncommon globally; G4 = widespread and abundant globally but with long term concerns; G5 = widespread and abundant globally; G? = unranked; GX = extinct; Q = uncertain rank; T = taxonomic subunit rank
SRANK: State Heritage Rank: S1 = critically imperiled in state; S2 = imperiled in state; S3 = rare or uncommon in state; G4 = widespread and abundant in state but with long term concern; SG = state significant; SH = historical in state; SX = state extirpated; B = breeding status; S? = unranked; SNR = unranked; SNA = nonbreeding status unranked

Indiana County Endangered, Threatened and Rare Species List

County: Tippecanoe

Species Name	Common Name	FED	STATE	GRANK	SRANK
High Quality Natural Community					
Barrens - gravel	Gravel Slope Barrens		SG	G3	S1
Barrens - sand	Sand Barrens		SG	G3	S2
Forest - upland dry-mesic	Dry-mesic Upland Forest		SG	G4	S4
Forest - upland mesic	Mesic Upland Forest		SG	G3?	S3
Lake - lake	Lake		SG	GNR	S2
Prairie - dry-mesic	Dry-mesic Prairie		SG	G3	S2
Wetland - fen	Fen		SG	G3	S3
Wetland - marsh	Marsh		SG	GU	S4
Wetland - seep circumneutral	Circumneutral Seep		SG	GU	S1
Other Significant Feature					
Geomorphic - Nonglacial Erosional Feature - Water Fall and Cascade	Water Fall and Cascade			GNR	SNR

Indiana Natural Heritage Data Center
Division of Nature Preserves
Indiana Department of Natural Resources
This data is not the result of comprehensive county surveys.

Fed: LE = Endangered; LT = Threatened; C = candidate; PDL = proposed for delisting
 State: SE = state endangered; ST = state threatened; SR = state rare; SSC = state species of special concern; SX = state extirpated; SG = state significant; WL = watch list
 GRANK: Global Heritage Rank: G1 = critically imperiled globally; G2 = imperiled globally; G3 = rare or uncommon globally; G4 = widespread and abundant globally but with long term concerns; G5 = widespread and abundant globally; G? = unranked; GX = extinct; Q = uncertain rank; T = taxonomic subunit rank
 SRANK: State Heritage Rank: S1 = critically imperiled in state; S2 = imperiled in state; S3 = rare or uncommon in state; G4 = widespread and abundant in state but with long term concern; SG = state significant; SH = historical in state; SX = state extirpated; B = breeding status; S? = unranked; SNR = unranked; SNA = nonbreeding status unranked