RED FLAG INVESTIGATION

Broadway Street/Landin Road and Rose Avenue New Haven, Indiana (Allen County) DES #1400694 May 15, 2015

NARRATIVE

Broadway Street/Landin Road is a north-south urban minor arterial that connects New Haven with northeast Fort Wayne. The original issue of this corridor was identified at the intersection with Rose Avenue. The concern was turning movement crashes and right angle crashes. In 2008 New Haven officials attempted to improve the turning movements by making the signal a split phase for the north and south movement (Broadway/Landin). This change in signal timings did minimize the number of left turning related crashes. However, this change also created longer queues which have resulted in an increase of rear end collisions and driver frustration.

After further investigation and studies were conducted (including a Roadway Safety Audit on June 20, 2013) it was determined that a number of issues at this intersection continue to exist. While the split phase change has decreased the number of left turn crashes the overall frequency of crashes has remained steady. The data also showed the number of aggressive driving crashes and driver habits have increased. Issues identified as problems include lane configuration on Broadway/Landin, street parking, posted and observed speeds, congestion and bicycle and pedestrian traffic.

This improvement project will reconstruct the roadway to create a three lane section from North River Road to Powers Street. The road improvements will create opposing left turn lanes at the intersection with Rose Avenue as well as provide bicycle and pedestrian facilities along both sides of the roadway. The improvement will also include illumination, non-mountable curbs, improved crosswalks, pavement markings and improved signage.

SUMMARY

Infrastructure

		and within ½ mile, including I not impact the project. If th	
Religious Facilities	5	Recreational Facilities	13
Airports	N/A	Pipelines	1
Cemeteries	1	Railroads	2
Hospitals	N/A	Trails	3
Schools	4	Managed Lands	10
Museums	N/A		

Explanation:

- There are five "Religious Facilities" located within the half mile radius but not within the project area. None of the religious facilities will be affected by the project.
- There is one "Cemetery" located within the half mile radius but not within the project area. This will not be affected by the project.

- There are four "Schools" identified within a half mile radius of the project. None of them are adjacent to the project. They will not be affected by the project.
- There are thirteen "Recreational Facilities" identified within a half mile radius of the project. Of the thirteen facilities, two are adjacent to the project and may be affected by the project. The two facilities adjacent to the project area include the following:
 - The first site is the Canal Landing located at 427 Broadway Street. This site touches the southern tip of the project area. It may be affected by the project.
 - The second recreational facility is Moser Park Woods. It runs adjacent to the west side of Broadway Street. It may be affected by the project.
- There are two "Railroads" located within the half mile radius. One of the rail corridors intersects the project area. The Norfolk Southern Railroad intersects the project area approximately 500 feet north of the Broadway Street/Landin Road & Rose Avenue intersection. It will be affected by the project.
- There is one "Pipeline" identified within a half mile radius of the project. It does not run adjacent to or cross the project area. It will not be affected by the project.
- There are three "Trails" identified within a half mile radius of the project area. Two "Trails" are located near the project area and are identified as the following:
 - o The New Haven River Greenway which extends to Moser Park runs adjacent to the west side of the project area between Rose Avenue and North River Road. It may be affected by the project.
 - The other trail is located along Rose Avenue east and west of Broadway Street/Landin Road. It
 intersects with the project area at the Broadway Street/Landin Road and Rose Avenue
 intersection. It may be affected by the project.
- There are ten "Managed Lands" within a half mile radius of the project area. Two of the ten "Managed Lands" are adjacent to or within the project area. They include the following:
 - Moser Park Woods is located adjacent to the west side of Broadway Street south of Rose Avenue. It may be affected by the project.
 - The Canal Landing is located on the east side of Broadway Street near the southern tip of the project area. It may be affected by the project.

		l within ½ mile, including an expl ot impact the project. If there are	
NWI - Wetlands	24	IDEM 303d Listed Lakes	N/A
Karst Springs	N/A	Lakes	7
Canal Structures – Historic	N/A	Floodplain - DFIRM	Yes
IDEM 303d Listed Rivers and Streams (Impaired)	5	Cave Entrance Density	N/A
Rivers and Streams	6	Sinkhole Areas	N/A
Canal Routes - Historic	1	Sinking-Stream Basins	N/A
Outstanding Rivers (Special Interest Waterways)	N/A	Line of Protection	N/A
*High Capacity Wells (Wellhead Protection Areas)	2	National River Inventory (NRI)	N/A

Explanation:

Water Resources

- There are twenty-four "NWI Wetlands" within the half mile radius. Five of the potential wetlands are adjacent to or near the project area. They include the following:
 - Two potential wetlands are located adjacent to Broadway Street south of Rose Avenue. One is located on the west side in Moser Park Woods and the other is located on the southeast side of the Rose Avenue and Broadway Street intersection. They may be affected by the project.

- One potential wetland is adjacent to the project area on the east side of Landin Road approximately 1,000 feet north of Rose Avenue. It may be affected by the project.
- One potential wetland is near the project area on the east side of Landin Road just south of the Maumee River. It may be affected by the project.
- The Maumee River is identified as a potential wetland. It crosses the project area just south of the Landin Road and North River Road intersection. It may be affected by the project.
- There are five "IDEM 303d Listed Rivers and Streams" segments identified within the half mile radius. These five segments create the Maumee River. The Maumee River crosses the north part of the project area just south of North River Road. It may be affected by the project.
- There are six "Rivers and Streams" identified within the half mile radius. Two of the six rivers and streams are adjacent to or intersect the project area. They include the following:
 - The Maumee River crosses the project area just south of the Landin Road and North River Road intersection. It may be affected by the project.
 - The ND (Natural Drain) water line, connected to the Trier Drain, runs adjacent to the west side
 of the project area between Rose Avenue and North River Road. It may be affected by the
 project.
- *High Capacity Wells To protect these features they are not identified in the water resource map due to their locational sensitivity. There are two "High Capacity Wells" located within the half mile radius. One of the two high capacity wells is within the project area and may be affected by the project.
- There are seven "Lakes" identified within the half mile radius. One of the seven "Lakes" is located near the project area. It is located on the east side of Landin Road just south of the Maumee River. It may be affected by the project.
- There is one "Historic Canal Route" identified within the half mile radius. The historical Wabash-Erie Canal route is located near the southern end of the project area. The canal route does not appear to intersect with the project area but further investigation may be needed to determine the actual alignment of the canal route. This may be affected by the project.
- There is a flood plain identified within the half mile radius of the project area. A significant amount of the project area is adjacent to or within a "Flood Plain" and may be affected by the project.

Mining/Mineral Exploration Indicate the number of items of concern found within ½ mile, including an explanation why each item within the ½ mile radius will/will not impact the project. If there are no items, please indicate N/A:							
Petroleum Wells N/A Petroleum Fields N/A							
Mines – Surface N/A Mines – Underground N/A							

Explanation:

There are no mining/mineral exploration concerns within the half mile radius of the project location.

N/A

*Infectious/Medical Waste Sites

Hazmat Concerns Indicate the number of items of c each item within the ½ mile radii please indicate N/A:						
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 1						
Construction Demolition Waste 1 State Cleanup Sites N/A						
Industrial Waste Sites (RCRA Generators) 1 Tire Waste Sites N/A						

Waste Transfer Stations

N/A

Hazmat Concerns continued			
Lagoon/Surface Impoundments	N/A	RCRA Waste Treatment, Storage, and Disposal Sites (TSDs)	N/A
Leaking Underground Storage Tanks (LUSTs)	5	Underground Storage Tanks (USTs)	6
Manufactured Gas Plant Sites	N/A	Voluntary Remediation Program	1
NPDES Facilities	N/A	Superfund	N/A
NPDES Pipe Locations	5	Institutional Control Sites	N/A
Open Dump Sites	N/A		

Explanation:

- There is one "Construction Demolition Waste Site" identified within the half mile radius. It is not located near the project area. It will not be affected by the project.
- There is one "Industrial Waste Site (RCRA Generator)" identified within the half mile radius. It is not located near the project area. The industrial waste site will not be affected by the project.
- There is one "Solid Waste Site" identified within the half mile radius. It is not located near the project area. It will not be affected by the project.
- There are six "Underground Storage Tanks (UST)" identified within the half mile radius. One UST is located on the far south end of the project area near the intersection of Broadway Street and Bell Avenue. It may be affected by the project.
- There are five "Leaking Underground Storage Tanks (LUSTs)" identified within the half mile radius. One LUST is located on the far south end of the project area near the intersection of Broadway Street and Bell Avenue. It may be affected by the project.
- There is one "Voluntary Remediation Program" identified within a half mile radius of the project. It is not located near the project area. It will not be affected by the project.
- There are five "NPDES Pipe Locations" identified within a half mile radius. None of them are near the project area. They will not be affected by the project.

Ecological Information

The Allen County listing of the Indiana Natural Heritage Data Center information on endangered, threatened, or rare (ETR) species and high quality natural communities is attached with ETR species highlighted. Due to the sensitive nature of identifying locations of threatened and endangered species, maps of these specific habitats are not provided.

Cultural Resources

The items below represent all properties or bridges in Fort Wayne and Allen County that have obtained any type of historic designation. The types of historic designation are: Indiana Historic Bridge Inventory, Fort Wayne Local Historic Districts, the Indiana State Register of Historic Places, the National Register of Historic Places, the Historic American Buildings Survey, and National Historic Landmark. The Items below labeled as "Potential" are items that have been identified by the Fort Wayne Historic Preservation Commission and/or Architecture and Community Heritage (ARCH) of Fort Wayne for their historical significance and potential for being listed in one of the above historical designations. Also, structures or properties from the latest County Interim Report have been identified.

Historic Features

Indicate the number of items of concern found within $\frac{1}{2}$ mile, including an explanation why each item within the $\frac{1}{2}$ mile radius will/will not impact the project. If there are no items, please indicate N/A:

Historic Sites or Districts	1	Select Bridges	N/A
Non-Select Bridges	N/A	Potential Historic Sites or Districts	5
Properties identified in the latest Interim Report	N/A		

Explanation:

- There is one "Historical Site or District" identified within the half mile radius. It is not adjacent to the project area. It will not be affected by the project.
- There are five "Potential Historic Sites or Districts" identified within the half mile radius. Three of the five sites or districts are located adjacent to or near the project area and consist of the following:
 - The New Haven Commercial Historic District is a potential National Register (NR) historic
 district and intersects the project area at the southern end at Bell Avenue. This potential NR
 district may be affected by the project.
 - The New Haven Main Street Historic District is a potential National Register (NR) historic district located just southwest of the project area. This potential NR district may be affected by the project.
 - There is a potentially historic farm near the project area located at 549 Rose Avenue. The potential historic property has a property line beginning about 160 feet west of the project area along the north side of Rose Avenue. This potential historic property may be affected by the project.

Further discussion with the Fort Wayne Historic Preservation Commission and Architecture and Community Heritage (ARCH) of Fort Wayne may be needed concerning the potential historic sites and districts near the project area since they have not been added to the SHAARD database yet and may need additional investigation. Also, the historical Wabash-Erie Canal route which is identified in the "Water Resources" section above may need further investigation to find out if there may be any adverse effects.

Pedestrian and Bus Stop Infrastructure

- 1) Trail crossings are needed to connect with the existing New Haven Trail access point on the southwest corner. Trail crossings are needed to connect with trails on the north side of the intersection which will exist on both sides with the Landin Road widening project north of North River Road.
- 2) Crossings are needed on all four intersection approaches.
- 3) An enhanced north/south trail crossing is needed. Also, an east/west trail crossing at the railroad tracks on the south side is needed.
- 4) Sidewalk installation to connect with existing sidewalks at Rufus Street is needed along the south side of Rose Avenue.
- 5) Sidewalk installation to connect Rose Avenue with the existing sidewalks at Powers Street is needed along the east side of Broadway Street.
- 6) Sidewalk installation on north side of Rose Avenue to connect with trail west of Landin/Broadway.

SUMMARY/RECOMMENDATIONS

INFRASTRUCTURE: The Red Flag Investigation has identified 39 Infrastructure items within the half mile radius. Of the 39 items only seven may be affected by the project. These items include two Recreational Facilities (the Canal Landing and Moser Park Woods these are also the two Managed Lands identified), one Railroad (Norfolk Southern Railroad), and two Trails (New Haven River Greenway and the trail along Rose Avenue east and west of Broadway Street/Landin Road). Coordination with the identified recreational facilities, railroad, trails and managed lands should be undertaken as the project is developed to determine potential impacts.

WATER RESOURCES: A total of 46 Water Resource items have been identified within the half mile radius. Only 16 of the 46 items may be affected by the project. The potential affected items include five NWI-Wetlands, five IDEM 303d Listed Rivers and Streams (these segments create the Maumee River), two Rivers and Streams, one High Capacity Well, one Lake, one Historic Canal Route (Wabash-Erie Canal) and a Flood Plain. Additional coordination should be conducted with the Allen County Surveyor's Office, the US Army Corps of Engineers, the Fort Wayne Historic Preservation Commission and Architecture and Community Heritage (ARCH) and the Department of Planning Services.

MINING/MINERAL EXPLORATION: N/A

HAZMAT CONCERNS: Twenty Hazmat items have been identified within the half mile radius. Of the 20 items only two of the items may be affected by the project. The items are one Underground Storage Tank (near Bell Avenue), and one Leaking Underground Storage Tank (near Bell Avenue). Additional coordination should be conducted with the Indiana Department of Environmental Management (IDEM).

ECOLOGICAL INFORMATION: : Coordination with the Indiana Department of Natural Resources (IDNR) and the U.S. Fish and Wildlife Service (USFWS) will be needed to determine the potential impact to any listed species and/or habitats may have on the project.

HISTORIC FEATURES: The RFI identified six Cultural Resource items within the half mile radius. Three of these items may be impacted by the project. The three Potential Historic Sites or Districts that have been identified include the New Haven Commercial Historic District, the New Haven Main Street Historic District and the property at 549 Rose Avenue. Further discussion with the Fort Wayne Historic Preservation Commission and Architecture and Community Heritage (ARCH) of Fort Wayne should be conducted to confirm that no additional properties have been identified from the time this report was developed and to determine if these three properties will be impacted by the project.

PEDESTRIAN AND BUS STOP INFRASTRUCTURE: Six locations have been identified that require pedestrian infrastructure improvements, including trail crossings and new sidewalk installation. All existing sidewalks/trails in the project area that will not be replaced as part of the project, should be inspected to ensure that they meet current PROWAG standards. If existing sidewalks/trails don't meet current standards then they should be upgraded and improved. All new facilities must meet PROWAG requirements.

Prepared by:

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Graphics:

A map for each report section with a $\frac{1}{2}$ mile radius buffer around all project area(s) showing all items identified as possible items of concern is attached.

GENERAL SITE MAP SHOWING PROJECT AREA: YES

TOPOGRAPHIC MAP SHOWING THE PROJECT AREA: YES

INFRASTRUCTURE: YES

WATER RESOURCES: YES

MINING/MINERAL EXPLORATION: YES

HAZMAT CONCERNS: YES

HISTORICAL FEATURES: YES

CITY OR COUNTY INTERIM REPORT: NO

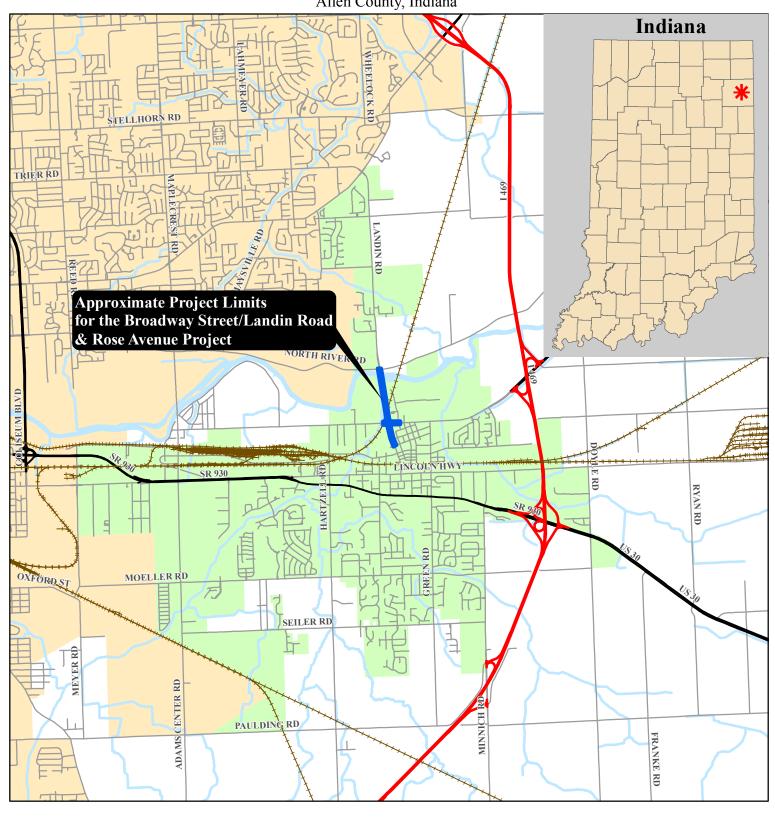
COUNTY LIST OF THREATENED AND ENDANGERED SPECIES: YES

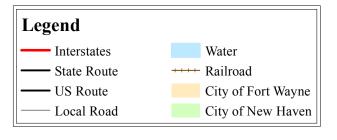
PEDESTRIAN AND BUS STOP INFRASTRUCTURE: YES

Additional Attachments:

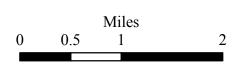
Roadway Safety Audit: Summary Report: YES

Red Flag Investigation - Project Location Broadway Street/Landin Road & Rose Avenue Intersection Improvement & Road Reconstruction Allen County, Indiana

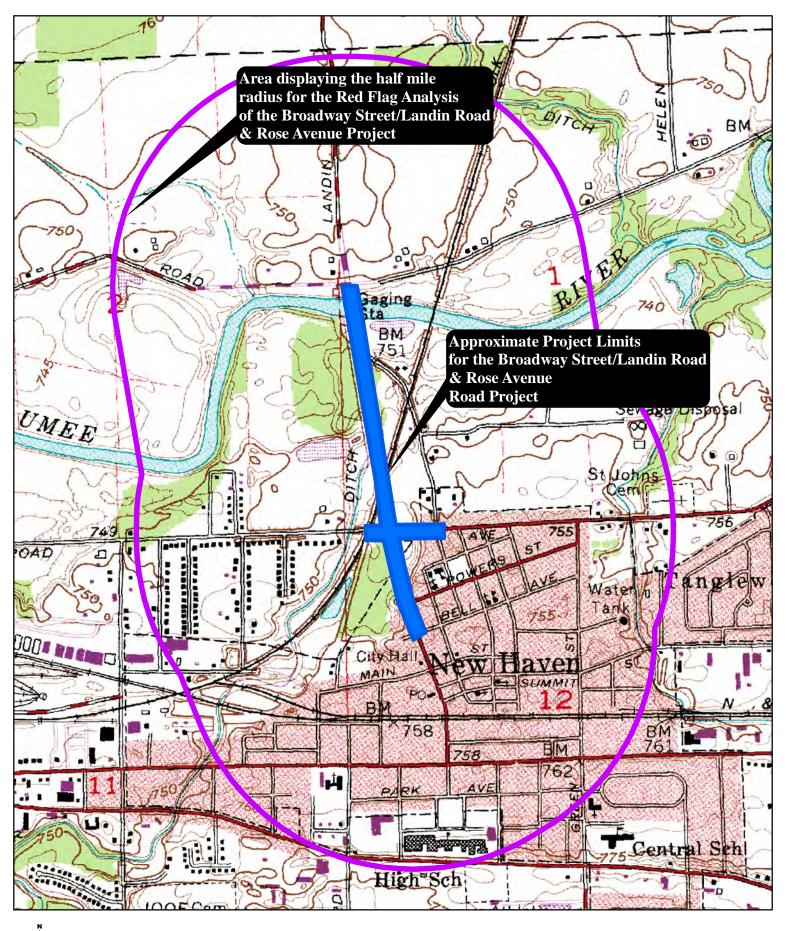














600

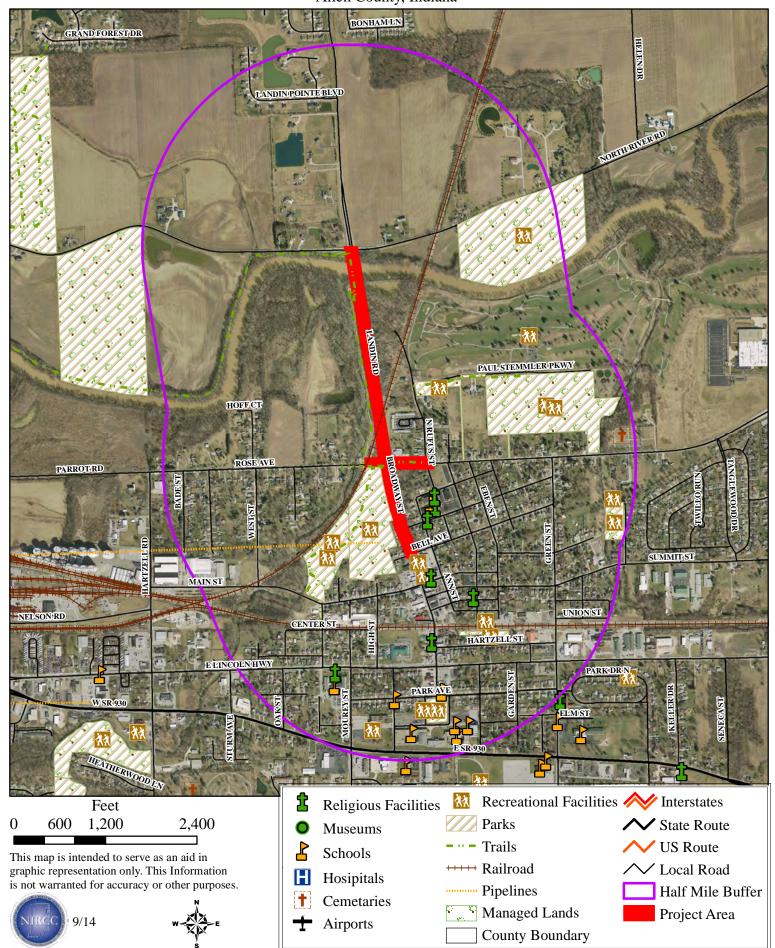
Feet

1,200

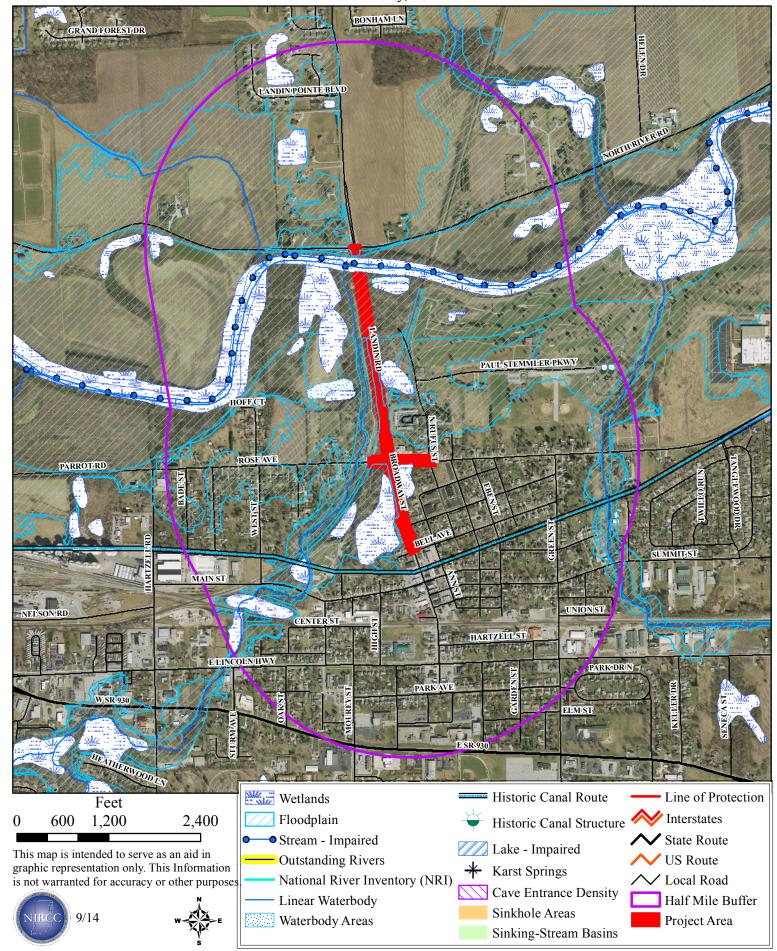
Red Flag Investigation - Topographic Map Broadway Street/Landin Road & Rose Avenue Allen County, Indiana 2,400



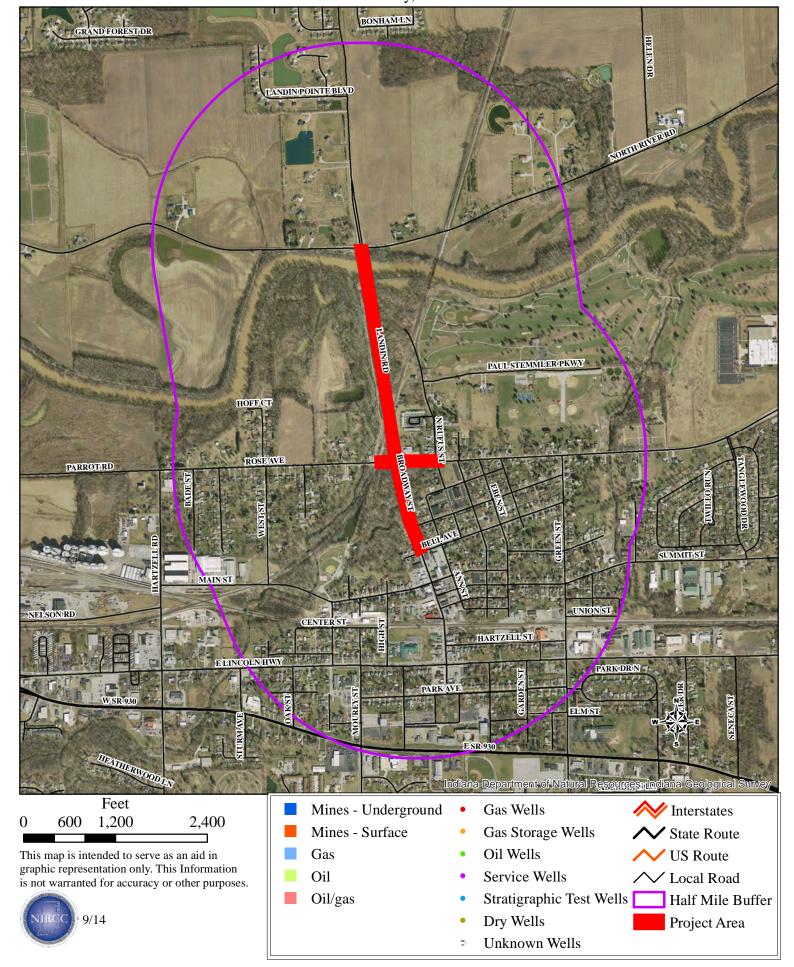
Red Flag Investigation - Infrastructure Map Broadway Street/Landin Road and Rose Avenue Intersection Improvement & Road Reconstruction Allen County, Indiana



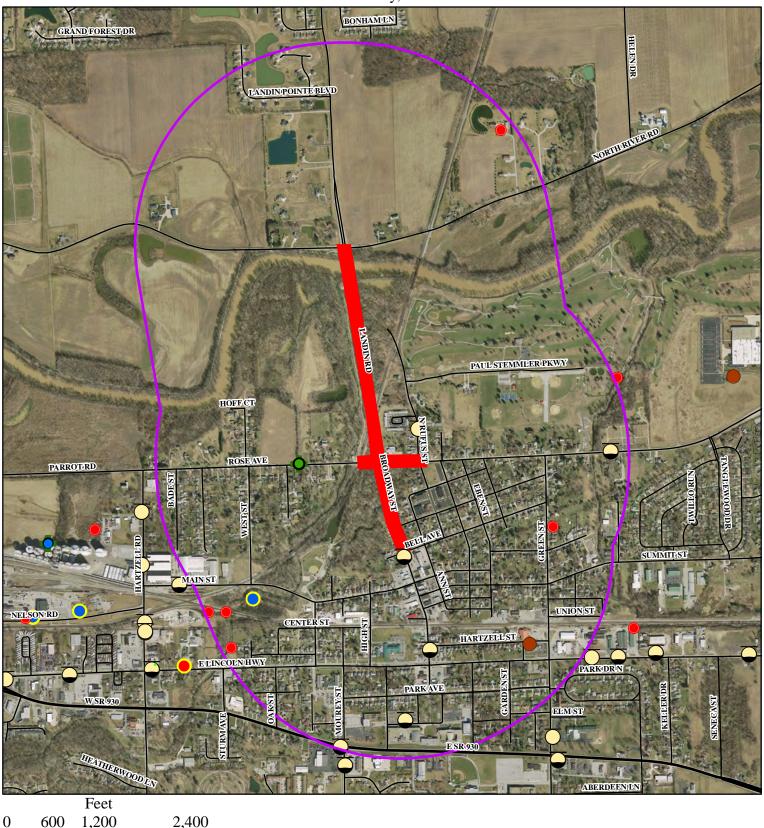
Red Flag Investigation -Water Resources Map Broadway Street/Landin Road & Rose Avenue Intersection Improvement & Road Reconstruction Allen County, Indiana



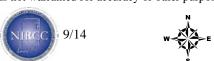
Red Flag Investigation - Mining/Mineral Exploration Map Broadway Street/Lanin Road and Rose Avenue Intersection Improvement & Road Reconstruction Allen County, Indiana



Red Flag Investigation - Hazmat Concerns Map Broadway Street/Landin Road and Rose Avenue Intersection Improvement and Road Reconstruction Allen County, Indiana



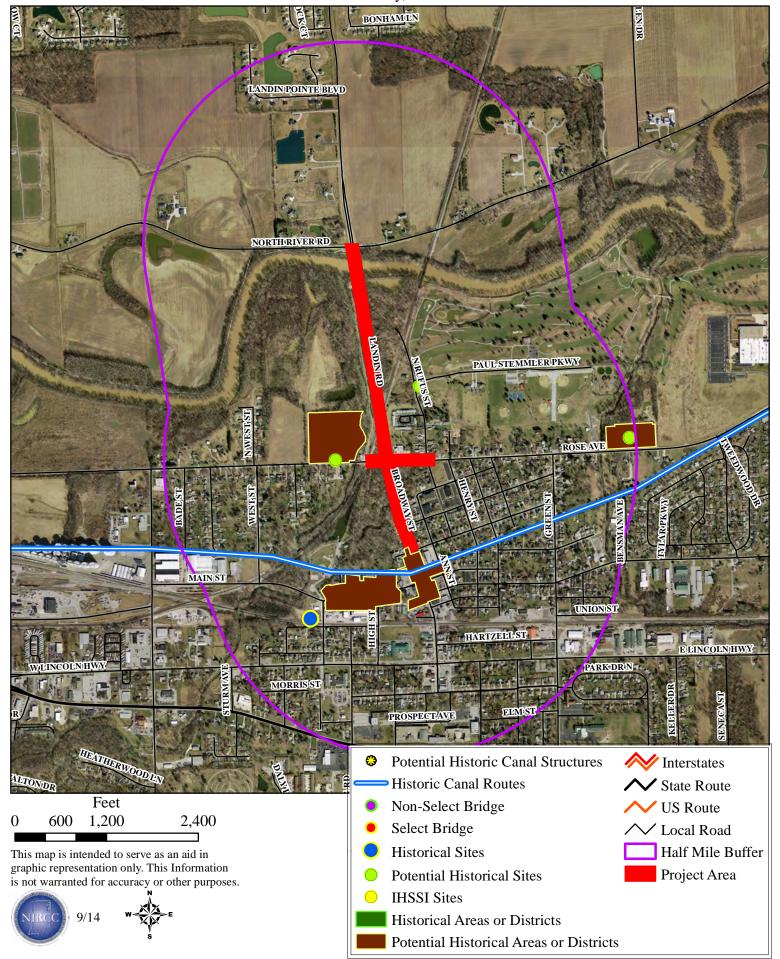
This map is intended to serve as an aid in graphic representation only. This Information is not warranted for accuracy or other purposes.



Red Flag Investigation - Hazmat Concerns Legend Broadway Street/Landin Road and Rose Avenue Intersection Improvement and Road Reconstruction Allen County, Indiana

•	Confined Feeding Operations		Brownfields
	Industrial Waste Site		State Cleanup Sites
*	Waste Treatment Storage Disposal		Voluntary Remediation Program Sites
	Waste Septage Sites		Institutional Controls
0	Waste Tire Sites		Leaking Underground Storage Tank
	Construction Demolition Waste	$\overline{\bigcirc}$	Underground Storage Tank
•	Waste Solid Active Permitted	•	Manufactured Gas Plants
	Composting Facilities	•	IDEM303D_pt
•	Open Dumps	\otimes	Waste Transfer Stations
•	Waste Old Landfills	\otimes	Waste Restricted Sites
•	Landfill Sites	/	Interstates
	NPDES Facility	/	State Route
	NPDES Pipe	/	US Route
0	Corrective Action Sites	/ /	Local Road
	Superfund		Half Mile Buffer
			Project Area

Red Flag Investigation - Historical Features Map Broadway Street/Landin Road and Rose Avenue Intersection Improvement & Road Reconstruction Allen County, Indiana



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Indiana County Endangered, Threatened and Rare Species List County: Allen

Species Name		Common Name	FED	STATE	GRANK	SRANK	
Mollusk: Bivalvia (Mussels)							
Epioblasma obliquata perobliqua		White Cat's Paw Pearlymussel	LE	SE	G1T1	SX	
Epioblasma torulosa rangiana		Northern Riffleshell	LE	SE	G2T2	SX	
Lampsilis fasciola		Wavyrayed Lampmussel		SSC	G5	S3	
Obovaria subrotunda		Round Hickorynut		SSC	G4	S1	
Pleurobema clava		Clubshell	LE	SE	G2	S1	
Ptychobranchus fasciolaris		Kidneyshell		SSC	G4G5	S2	
Quadrula cylindrica cylindrica		Rabbitsfoot	C	SE	G3G4T3	S1	
Toxolasma lividus		Purple Lilliput	_	SSC	G3	S2	
<mark>Villosa fabalis</mark>		Rayed Bean	C	SSC	G2	S1	
Insect: Odonata (Dragonflies & Damselflies) Tachopteryx thoreyi		Gray Petaltail		SR	G4	S2S3	
Fish Moxostoma valenciennesi		Greater Redhorse		SE	G4	S2	
Percina evides		Gilt Darter		SE	G4	S1	
		Ont Durio		2.1	-	-	
Amphibian Ambystoma laterale		Blue-spotted Salamander		SSC	G5	S2	
Hemidactylium scutatum		Four-toed Salamander		SE	G5 G5	S2 S2	
Rana pipiens		Northern Leopard Frog		SSC	G5 G5	S2 S2	
		Normern Leopard Flog		SSC	0.5	52	
Reptile Clammys guttata		C 44 1.T 4		C.F.	C5	S2	
Clemmys guttata Clonophis kirtlandii		Spotted Turtle		SE	G5 G2	S2 S2	
Cioriophis kirtiandii Emydoidea blandingii		Kirtland's Snake		SE SE	G2 G4	S2 S2	
Sistrurus catenatus catenatus		Blanding's Turtle	C	SE SE	G3G4T3T4Q	S2 S2	
Sistinus Cateriatus Cateriatus		Eastern Massasauga		SE	U3U41314Q	32)	
Bird Asio flammeus		gi , lo i		QT.	G5	S2	
		Short-eared Owl		SE	G5	S3B	
Bartramia longicauda Buteo lineatus		Upland Sandpiper		SE	G5	S3B	
		Red-shouldered Hawk	NI Cu i	SSC			
Buteo platypterus		Broad-winged Hawk	No Status	SSC	G5	S3B S2	
Circus cyaneus		Northern Harrier		SE	G5		
Dendroica cerulea		Cerulean Warbler	NI C	SE	G4	S3B	
Falco peregrinus		Peregrine Falcon	No Status	SE	G4	S2B	
Haliaeetus leucocephalus		Bald Eagle	LT,PDL	SE	G5	S2D	
Ixobrychus exilis		Least Bittern	NT CO	SE	G5	S3B	
Lanius Iudovicianus		Loggerhead Shrike	No Status	SE	G4	S3B	
Nyctanassa violacea		Yellow-crowned Night-heron		SE	G5	S2B	
Nycticorax nycticorax		Black-crowned Night-heron		SE	G5	S1B	
Phalaropus tricolor		Wilson's Phalarope		SSC	G5	SHB	
Sturnella neglecta		Western Meadowlark		SSC	G5	S2B	
Tyto alba		Barn Owl		SE	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: State: GRANK:	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					

unranked

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; SNR = nonbreeding status

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Indiana County Endangered, Threatened and Rare Species List

County: Allen

Species Name	Common Name	FED	STATE	GRANK	SRANK
Wilsonia citrina	Hooded Warbler		SSC	G5	S3B
Mammal					
Lynx rufus	Bobcat	No Status	SSC	G5	S1
Taxidea taxus	American Badger		SSC	G5	S2
Vascular Plant					
Andromeda glaucophylla	Bog Rosemary		SR	G5	S2
Armoracia aquatica	Lake Cress		SE	G4?	S1
Chelone obliqua var. speciosa	Rose Turtlehead		WL	G4T3	S3
Circaea alpina	Small Enchanter's Nightshade		SX	G5	SX
Coeloglossum viride var. virescens	Long-bract Green Orchis		ST	G5T5	S2
Crataegus succulenta	Fleshy Hawthorn		SR	G5	S2
Euphorbia obtusata	Bluntleaf Spurge		SE	G5	S1
Phlox ovata	Mountain Phlox		SE	G4	S1
Platanthera psycodes	Small Purple-fringe Orchis		SR	G5	S2
Poa alsodes	Grove Meadow Grass		SR	G4G5	S2
Scutellaria parvula var. parvula	Small Skullcap		SX	G4T4	SX
Spiranthes lucida	Shining Ladies'-tresses		SR	G5	S2
Spiranthes magnicamporum	Great Plains Ladies'-tresses		SE	G4	S1
High Quality Natural Community					
Forest - flatwoods central till plain	Central Till Plain Flatwoods		SG	G3	S2
Forest - floodplain mesic	Mesic Floodplain Forest		SG	G3?	S1
Forest - floodplain wet-mesic	Wet-mesic Floodplain Forest		SG	G3?	S3
Forest - upland dry	Dry Upland Forest		SG	G4	S4
Forest - upland dry-mesic	Dry-mesic Upland Forest		SG	G4	S4
Forest - upland mesic	Mesic Upland Forest		SG	G3?	S3
Lake - pond	Pond		SG	GNR	SNR
Prairie - dry-mesic	Dry-mesic Prairie		SG	G3	S2
Wetland - marsh	Marsh		SG	GU	S4
Wetland - swamp forest	Forested Swamp		SG	G2?	S2
Wetland - swamp shrub	Shrub Swamp		SG	GU	S2
Other					
Geomorphic - Nonglacial Erosional Feature -	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.

Water Fall and Cascade

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; $G4 = wide spread \ and \ abundant \ in \ state \ but \ with \ long \ term \ concern; \ SG = state \ significant; \ SH = historical \ in$ state; SX = state extirpated; B = breeding status; S? = unranked; SNR = unranked; SNA = nonbreeding status unranked

