

# HAN-US 68/SR 15 INTERCHANGE PROJECT

## Purpose and Need Statement

### 1.1 Project History

The Maumee Watershed Conservancy District (MWCD), in cooperation with the Ohio Department of Transportation (ODOT) District 1, proposes improvements to the US 68/SR 15 interchange just south of the City of Findlay in Hancock County, Ohio. The project location is shown in **Figure 1**. The proposed improvements address changes to the local transportation system which will occur due to the construction of the Eagle Creek Dry Storage Basin, one of the projects included in the Flood-Risk Reduction Program currently underway by Hancock County and the MWCD. These changes include the removal of portions of Township Road (TR) 49 and Township Road (TR) 77, that are within the area proposed for the dry storage basin project. As a result of the removal of these local roads, access to US 68 from the residential area west of US 68 (Spring Lake subdivision) will be impacted.

#### **Eagle Creek Dry Storage Basin**

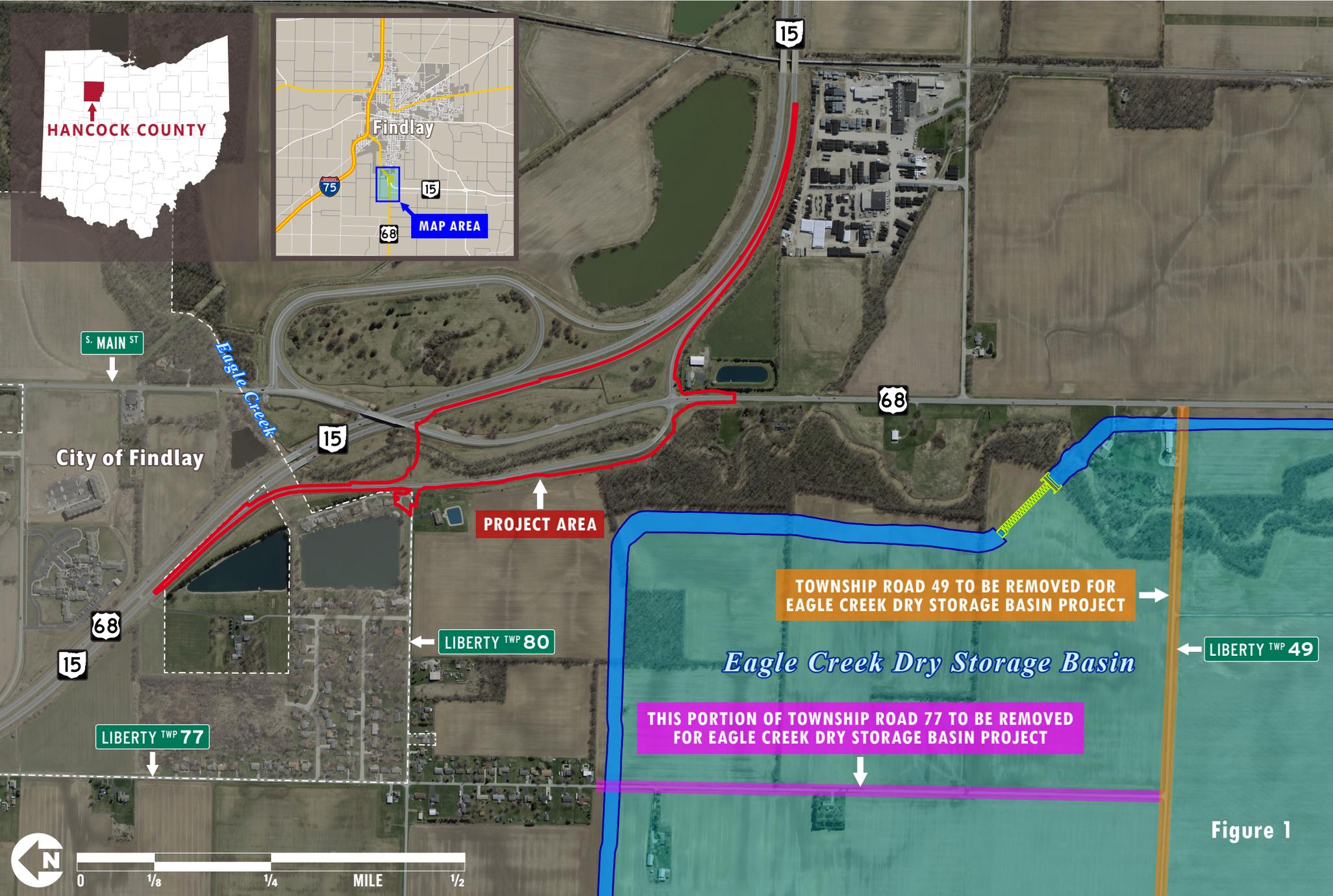
In 2007, the City of Findlay and the Hancock County Commissioners engaged the U.S. Army Corps of Engineers to develop a plan for reducing damages caused by the frequent flooding on the Blanchard River and its tributaries. The urgency to pursue flood risk reduction for the Blanchard River and its tributaries has been amplified by the occurrence of six (6) flood events in the past twelve (12) years that rank in the top ten highest recorded floods in Ohio since the 1913 flood, which was the worst flood on record and completely inundated the business district adjacent to the City of Findlay. In addition to extensive structural, property and environmental damage, flood events along the Blanchard River and its tributaries have resulted in the closure of US 68 and SR 15 due to standing water on the roadways. From this study, a series of projects were recommended to reduce flood risk, including the construction of a dry storage basin on Eagle Creek just south of the US 68/SR 15 interchange. The storage basin would be constructed of earthen embankments to impound floodwater during rain events and release the floodwaters slowly, thus reducing the water surface elevations downstream of the basins. In 2019, funding was provided to MWCD to begin preliminary engineering of the Eagle Creek Dry Storage Basin concept. Property acquisition for this project has been ongoing and project construction is anticipated to be completed Spring, 2025. **Figure 1** identifies the location of the Eagle Creek dry storage basin.

As a result of the construction of the Eagle Creek Dry Storage Basin, two local roads will be terminated during construction: TR 49 will be fully decommissioned between US 68 and TR 76 and TR 77 will be partially removed from TR 49 to just north of the dam embankment near a row of residential structures. A 42-foot radius cul-de-sac is planned at the site of the termination of TR 77 to allow for residents, school buses, and other vehicles to turn around. As a result of these road closures, mobility through the area west of US 68 would be affected, as well as access to US 68 from the residential areas west of the US 68/SR 15 Interchange. Due to these impacts, MWCD, in cooperation with the Ohio Department of Transportation (ODOT) District 1, proposes to improve access to US 68 from the west side of the interchange to improve mobility through the area.



# Project Location

## HAN-US 68/SR 15 Interchange • PID 112280



## 1.2 Purpose Statement

The purpose of the proposed HAN-US 68/SR 15 Interchange project (PID 112280) is to improve access to US 68 for the local residential areas located west of US 68 that will be impacted as a result of the removal of TR 49 between US 68 and TR 76 and the partial removal of TR 77 from TR 49 to just north of the dam embankment as a result of the construction of the Eagle Creek Dry Storage Basin, part of the Flood-Risk Reduction Program currently underway by Hancock County and the MWCD.

## 1.3 Needs Element

### 1.3.1 PRIMARY NEEDS

The primary need of the HAN-US 68/SR 15 Interchange project is to improve access to the US 68/SR 15 Interchange area for residences west of US 68 as discussed below.

- **Improving Access**

This project is needed because of planned closures of two local roads because of the proposed Eagle Creek Dry Storage Basin project, which currently provide access to US 68 from areas west of the interstate. Township Road (TR) 49 will be fully decommissioned between US 68 and TR 76 and TR 77 will be partially removed from TR 49 to just north of the dam embankment near a row of residential structures. With the elimination of TR 49 and TR 77, motorists accessing US 68 from areas west of US 68 would be required to take TR 76 south to TR 45 east to US 68, which is almost two miles longer than their current access to US 68 via TR 77 and TR 49. This additional driving time would impact motorists traveling from areas west of US 68 to the interstate, as well as the responsiveness of emergency services to residential areas west of US 68.

### 1.3.2 SECONDARY NEEDS

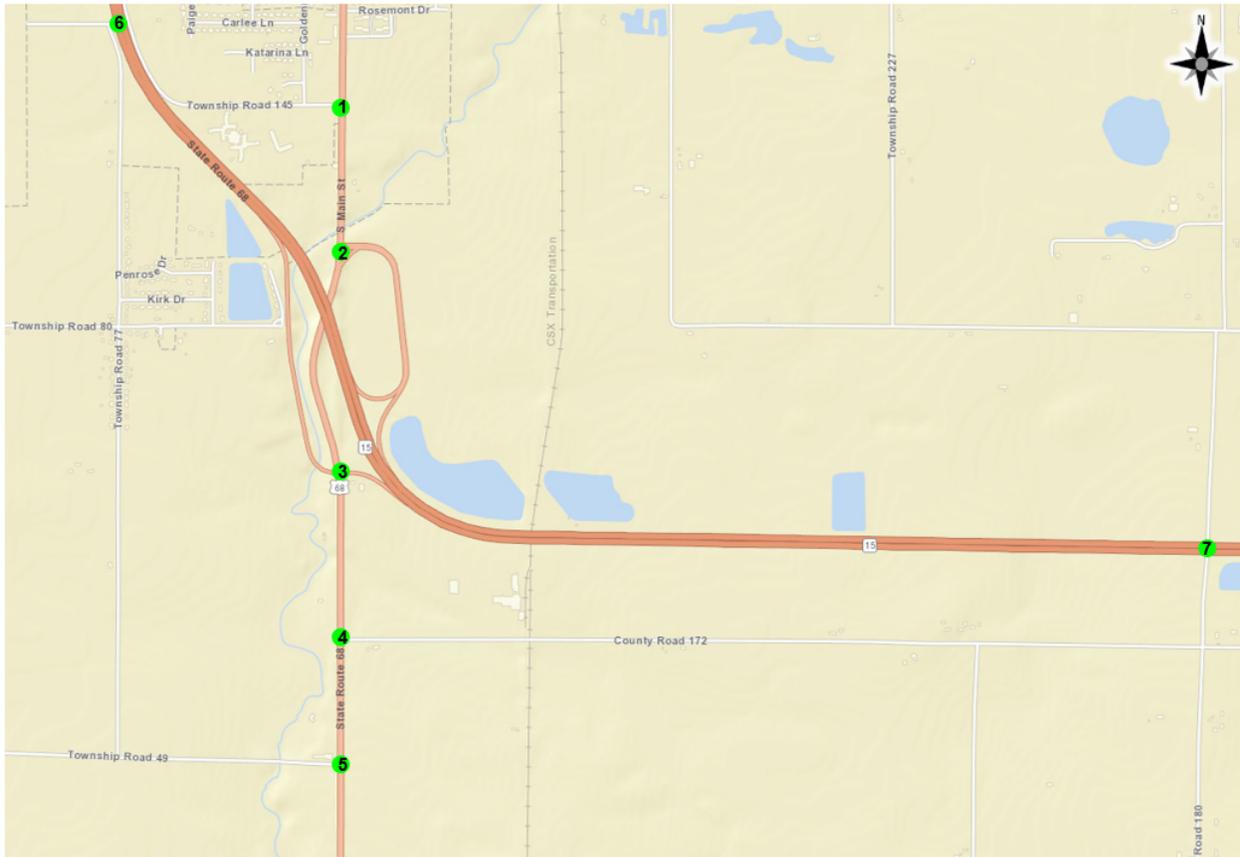
A secondary need of the HAN-US 68/SR 15 Interchange project is to improve mobility through the US 68 Interchange as discussed below.

- **Improve Mobility/Congestion**

The project is needed to improve mobility and reduce congestion for traffic traveling through the HAN US 68/SR 15 Interchange area. The configuration of the existing interchange is not efficient to meet future traffic demand. The existing interchange configuration is comprised of a partial cloverleaf with a loop ramp for the northbound (NB) to westbound (WB) (NB US 68 to WB SR 15) movement. The remaining three movements are traditional diamond ramps. Both interchange intersections along US-68/Main Street are two way stop-controlled intersections. The existing intersections at TR-145, CR-172, and TR-49 are all two-way stop-controlled intersections as well. **Figure 2** shows the following intersections in the US 68/SR 15 Interchange area:

1. Main Street & TR-145
2. US-68 & SR-15 WB Ramp
3. US-68 & SR 15 EB Ramp
4. US-68 & CR-172
5. US-68 & TR-49

- 6. US-68/SR-15 & Western Avenue
- 7. SR-15 & TR-180



**Figure 2: Study Area Intersections**

A traffic analysis completed as part of the HAN US 68/SR 15 Interchange project indicated that in the design year (2045), eastbound (EB) vehicles exiting SR 15 onto US 68 would experience unacceptable delay using the existing two-way stop-controlled (TWSC) intersection. The volume to capacity (v/c) ratio for the EB movement is greater than 1.0, which indicates that the movement is over capacity. As shown in **Tables 1 and 2**, traffic utilizing the US 68/SR 15 EB ramps would experience a delay of 51.8 seconds and 286.7 seconds during the AM and PM peak hours respectively, resulting in a Level of Service (LOS) F during both peaks. In addition, westbound (WB) vehicles at the intersection of US 68 & CR 172 would experience unacceptable delays using the existing two-way stop-controlled (TWSC) intersection. During the AM and PM peaks, delays at this intersection are projected to be 34.7 seconds with LOS D and 50.6 seconds with LOS F, respectively. The Highway Capacity Manual 6<sup>th</sup> Edition (2016) defines LOS as a qualitative measure that describes operational conditions within a traffic stream, generally in terms of measures like speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience. LOS ranges from LOS A, which indicates free-flow operations, and LOS F, which indicates severe congestion with the road in a state of constant traffic jam (Transportation Research Board, 2016).

**Table 1: No Build 2045 AM Traffic Analysis**

		No Build 2045 AM											Analysis Type	
		Eastbound			Westbound			Northbound			Southbound			
Intersection		L	T	R	L	T	R	L	T	R	L	T	R	
Main Street / TR-145	Delay	16.0			-	-	-	7.9	-	-	-	-	-	TWSC
	LOS	C			-	-	-	A	-	-	-	-	-	
US-68 / SR-15 WB Ramps	Delay	-	-	-	11.2			-	-	-	8.7	-	-	TWSC
	LOS	-	-	-	B			-	-	-	A	-	-	
US-68 / SR-15 EB Ramps	Delay	51.8			-	-	-	-	-	-	9.8	-	-	TWSC
	LOS	F			-	-	-	-	-	-	A	-	-	
US-68 / CR-172	Delay	-	-	-	34.7			-	-	-	10.1	-	-	TWSC
	LOS	-	-	-	D			-	-	-	B	-	-	
US-68 / TR-49	Delay	21.1			-	-	-	8.4	-	-	-	-	-	TWSC
	LOS	C			-	-	-	A	-	-	-	-	-	

Source: Stantec, HAN US 68/SR 15 Interchange (PID 112280) Operations Study, January 2023

**Table 2: No Build 2045 PM Traffic Analysis**

		No Build 2045 PM											Analysis Type	
		Eastbound			Westbound			Northbound			Southbound			
Cross Street		L	T	R	L	T	R	L	T	R	L	T	R	
Main Street / TR-145	Delay	20.8			-	-	-	8.8	-	-	-	-	-	TWSC
	LOS	C			-	-	-	A	-	-	-	-	-	
US-68 / SR-15 WB Ramps	Delay	-	-	-	11.5			-	-	-	8.3	-	-	TWSC
	LOS	-	-	-	B			-	-	-	A	-	-	
US-68 / SR-15 EB Ramps	Delay	286.7			-	-	-	-	-	-	9.3	-	-	TWSC
	LOS	F			-	-	-	-	-	-	A	-	-	
US-68 / CR-172	Delay	-	-	-	50.6			-	-	-	9.2	-	-	TWSC
	LOS	-	-	-	F			-	-	-	A	-	-	
US-68 / TR-49	Delay	29.7			-	-	-	9.9	-	-	-	-	-	TWSC
	LOS	D			-	-	-	A	-	-	-	-	-	

Source: Stantec, HAN US 68/SR 15 Interchange (PID 112280) Operations Study, January 2023

## 1.4 Summary Statement

The Maumee Watershed Conservancy District (MWCD), in cooperation with the Ohio Department of Transportation (ODOT) District 1, proposes improvements to the US 68/SR 15 interchange just south of the City of Findlay in Hancock County, Ohio. The purpose of the proposed HAN-US 68/SR 15 Interchange project (PID 112280) is to improve access to US 68 for residential areas west of US 68, which will be impacted as a result of the removal of TR 49 between US 68 and TR 76 and the partial removal of TR 77 from TR 49 to just north of the dam embankment, as a result of the construction of the Eagle Creek Dry Storage Basin, part of the Flood-Risk Reduction Program currently underway by Hancock County and the MWCD. The project is needed to improve access to US 68 for the residential areas west of US 68. The removal of TR 49 and TR 77 will result in a longer route for motorists accessing US 68 from areas west of US 68 and longer emergency response times for emergency services traveling to and from the area west of US 68. A secondary need of the project is to improve the configuration of the interchange, which has

several two-way stop-controlled (TWSC) intersections which are expected to have unacceptable delays in the design year.

## **1.5 Logical Termini and Independent Utility**

### *Logical Termini*

The northern and southern termini of the proposed project (HAN US 68/SR 15 Interchange) are the existing intersections of US 68 and SR 15 westbound ramp and US 68 and SR 15 eastbound ramp, respectively. The western terminus includes approximately 200 feet along Township Route 80. The eastern terminus is the SR-15 mainline north and south of the US-68 ramps. These termini are logical because they limit the footprint of the project to the greatest extent possible while still allowing for the project to address the access issue in the vicinity of the US 68/SR 15 intersection.

### *Independent Utility*

The proposed project addresses the project purpose and need and can be accomplished without other transportation investments in the immediate area. In addition, the proposed action will not interfere with or preclude future transportation improvements in the area. Therefore, the proposed action is considered to have independent utility.

## 2 References

2023 Stantec Consulting Services, Inc.

HAN US 68/SR 15 Interchange Operations Study PID 112280, January 2023.

2016 Transportation Research Board

Highway Capacity Manual, Sixth Edition: A Guide for Multi-modal Mobility Analysis, Washington, D.C., 2016.