

Draft Environmental Assessment

City of Sharonville Flood Mitigation Project

City of Sharonville, Hamilton County, Ohio April 2019

Prepared by CDM Smith 10560 Arrowhead Drive Fairfax, VA 22030

Prepared for FEMA Region V, Project # FMA-PJ-05-OH-2017-015 536 South Clark Street, Sixth Floor Chicago, IL 60605



List of Acronyms, Chemical Formulas, and Abbreviations

APE	Area of Potential Effects			
BMP	Best Management Practice			
CAA	Clean Air Act			
CEQ	Council on Environmental Quality			
C.F.R.	Code of Federal Regulations			
cfs	cubic feet per second			
CLOMR	Conditional Letter of Map Revision			
CO	carbon monoxide			
CWA	Clean Water Act			
CY	Cubic Yard			
EA	environmental assessment			
EO	Executive Order			
EPA	U.S. Environmental Protection Agency			
FEMA	Federal Emergency Management			
	Agency			
FHWA	Federal Highway Administration			
FIRM	Flood Insurance Rate Map			
FMA	Flood Mitigation Assistance			
FONSI	Finding of No Significant Impact			
FPPA	Farmland Protection Policy Act			
GCWW	Greater Cincinnati Water Works			
GIS	Geographic Information System			
IPaC	Information for Planning and			
	Consultation			
LOMR	Letter of Map Revision			
MBI	Midwest Biological Institute			
МОТ	Maintenance of Traffic			
NAAQS	National Ambient Air Quality			
	Standards			
NAVD 8	8 North American Vertical			
	Datum of 1988			
NEPA	National Environmental Policy Act			
NFIP	National Flood Insurance Program			
NHPA	National Historic Preservation Act			
NID	National Inventory of Dams			

American Community Survey

ACS

	NO ₂	nitrogen dioxide
	NOx	nitrogen oxide
	NPDES	National Pollutant Discharge
		Elimination System
	NRCS	Natural Resources Conservation
		Service
	NRHP	National Register of Historic Places
	NWI	National Wetlands Inventory
	O ₃	ozone
	OAC	Ohio Administrative Code
	ODOT	Ohio Department of Transportation
	ODNR	Ohio Department of Natural
		Resources
у	OEMA	Ohio Emergency Management Agency
	OEPA	Ohio Environmental Protection
		Agency
	оні	Ohio Historic Inventory
	OHWM	ordinary high-water mark
	Ohio Re	ev. Code Ohio Revised Code
	OSHA	Occupational Safety and Health
		Administration
	Pb	lead
	PM	particulate matter
	PII	Permit to Install
	RCRA	Resource Conservation and Recovery
	CUDO	ACT
	SHPU	State Historic Preservation Office
		Sulfur dioxide
		Toxic Release Inventory
		Inited States
		US Army Corps of Engineers
		U.S. Code
		U.S. Department of Agriculture
	0000	o.o. Department of Agriculture

USFWS U.S. Fish and Wildlife Service

TABLE OF CONTENTS

1	BACKO	GROUND	1
1.1	Project Authority1		
1.2	Project Location1		
1.3	Purpose and Need2		
1.4	Existing Facilities2		
2	ALTERNATIVE ANALYSIS		
2.1	Altern	ative 1 – No Action	3
2.2	Action Alternative 2 – Proposed Action		
2.3	Alternatives Considered and Eliminated from Further Consideration		
3	AFFEC	TED ENVIRONMENT AND CONSEQUENCES	6
3.1	Physic	al Environment	7
	3.1.1	Geology, Soils, and Topography	7
	3.1.2	Water Resources and Water Quality	9
	3.1.3	Floodplain Management (Executive Order 11988)	14
	3.1.4	Air Quality	16
3.2	Biolog	ical Environment	17
	3.2.1	Terrestrial and Aquatic Environment	17
	3.2.2	Wetlands (Executive Order 11990)	20
	3.2.3	Threatened and Endangered Species	20
	3.2.4	Migratory Birds	22
3.3	Hazaro	dous Materials	23
3.4	Socioe	conomics	25
	3.4.1	Zoning and Land Use	25
	3.4.2	Visual Resources	27
	3.4.3	Noise	
	3.4.4	Public Services and Utilities	
	3.4.5	Traffic and Circulation	
	3.4.6	Environmental Justice (Executive Order 12898)	
	3.4.7	Safety and Security	
3.5	Histori	ic and Cultural Resources	
	3.5.1	Affected Environment	
	3.5.2	Environmental Consequences	
	3.5.3	Tribal Coordination and Religious Sites	
3.6	Compa	arison of Alternatives	41
4	CUMU	LATIVE IMPACTS	55
5	PUBLIC PARTICIPATION		
5.1	Initial	Public Notice	57

6	MITIGATION MEASURES AND PERMITS	. 57
6.1	Permits	. 57
6.2	Project Conditions	. 58
7	CONSULTATIONS AND REFERENCES	.61
7.1	References	. 62
8	LIST OF PREPARERS	. 66

LIST OF TABLES

Table 1: Regulated Sites in the Project Vicinity	24
Table 2: Racial Composition (Block Group ID# 390610230022)	35
Table 3: Racial Composition (Block Group ID# 390610230023)	36
Table 4: Summary of Environmental Impacts	41
Table 5: Permit Summary	58

APPENDICES

Appendix A	Figures	and Maps
Figure	1:	Regional Project Location Map
Figure	2:	Project Vicinity Map – City of Sharonville
Figure	3:	Project Area – Sharonville Detention Reservoir
Figure	4:	Project Area – Main Street Culvert
Figure	5:	FIRMette (FIRM #39061C0094E)
Figure	6:	FIRMette (FIRM #39061C0093E)
Figure	7:	Existing Auxiliary Spillway
Figure	8:	Twin Box Culvert Inlet
Figure	9:	Twin Box Culvert Outlet (Facing Upstream)
Figure	10:	Debris and Sediment Accumulation
Figure	11:	Auxiliary Spillway Design Concept
Figure	12:	Labyrinth Weir Spillway Example
Figure	13:	Twin Box Culvert Replacement Concept
Figure	14:	Soils – Detention Reservoir Project Area
Figure	15:	Soils – Culvert Replacement Project Area
Figure	16:	Existing and Modified Floodplain
Figure	17:	Wetlands – Detention Reservoir Project Area
Figure	18:	Wetlands – Culvert Replacement Project Area
Figure	19:	Land Use – Detention Reservoir Project Area
Figure	20:	Zoning – Detention Reservoir Project Area
Figure	21:	Land Use – Culvert Replacement Project Area
Figure	22:	Zoning – Culvert Replacement Project Area
Figure	23:	Parcel Boundaries - Culvert Replacement Project Area
Figure	24:	Utility Plan – Culvert Replacement Project Area
Figure	25:	Potential Detour Route
Figure	26:	Percentage of Population Below Poverty Level by Census Tract
Figure	27:	Percentage of Minority Population by Block Group
Figure	28:	Existing Land Use – Downtown Sharonville
Figure	29:	Preferred Land Use Plan – Downtown Sharonville
Appendix B	Floodp	lain Management Eight-Step Documentation
Appendix C	Agency	Correspondence

- Appendix D Public Notice
- Appendix E Initial Notice (April 18, 2018)

1 BACKGROUND

1.1 Project Authority

The City of Sharonville, Ohio (subrecipient), proposes to construct modifications to the Sharonville Detention Reservoir and twin box culvert under Main Street to reduce flood hazards. The subrecipient has applied to the Federal Emergency Management Agency (FEMA) through the Ohio Emergency Management Agency (OEMA) for a grant of \$1,927,027 under the Flood Mitigation Assistance (FMA) Grant Program (application number FMA-PJ-05-OH-2017-015). The FMA Grant Program is authorized by Section 1366 of the National Flood Insurance Act of 1968, as amended, with the goal of reducing or eliminating claims under the National Flood Insurance Program (NFIP). The overall FMA goal is to fund cost-effective measures that reduce or eliminate the long-term risk of damage to buildings, manufactured homes, and other NFIP-insurable structures.

This environmental assessment (EA) has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969; Council on Environmental Quality (CEQ) regulations to implement NEPA (40 Code of Federal Regulations [C.F.R.] Parts 1500 to 1508); Department of Homeland Security Instruction 023-01; and FEMA Instruction 108-01-1, NEPA implementing procedures. FEMA is required to evaluate alternatives and consider potential environmental impacts before funding or approving actions and projects. As part of this NEPA review, this EA also reviews compliance with other environmental laws and executive orders. The purpose of this EA is to meet FEMA's responsibilities under NEPA and to analyze the potential environmental impacts of the proposed project. FEMA will use the findings in this Draft EA to determine whether to prepare an environmental impact statement for the proposed project or to issue a Finding of No Significant Impact (FONSI).

1.2 Project Location

The proposed project is located within the city limits of the City of Sharonville in the northeast portion of Hamilton County, Ohio (**Figures 1** and **2**). The city has a total area of 9.9 square miles and a population of approximately 13,782 (U.S. Census Bureau 2016)¹.

The project area consists of two sites along a tributary to Sharon Creek, a 0.18-acre site at the Sharonville Detention Reservoir and a 0.73-acre site at an existing twin box culvert near the intersection of Main Street and U.S. 42 (East Sharon Road/Reading Road) in Sharonville (**Figures 3** and **4**). This tributary runs east to west through Sharonville connecting with Sharon Creek about 0.5 mile southwest of the twin box culvert. The detention reservoir is located near 3797 Creek Road at 36.26747 latitude and -84.39871 longitude. The existing twin box culvert is near

¹ See Section 7 for a complete listing of source documents, which are identified by author and year of publication.

11005 Main Street at 36.26845 latitude and -84.41212 longitude. Proposed project work would occur on city-owned land at the reservoir, city-owned right of way at Main Street and Creek Road, two private properties at 11024 Main Street and 10980 Reading Road, and on property that would be acquired by the city at 11005 Main Street.

1.3 Purpose and Need

The objective of the FMA Grant Program is to provide funding to states, territories, federally recognized tribes, and local communities for projects and planning that reduce or eliminate long-term risk of flood damage to structures insured under the NFIP. The overall purpose of the FMA Grant Program is to fund cost-effective measures that reduce or eliminate the long-term risk of damage to buildings, manufactured homes, and other NFIP-insurable structures. The purpose of the Sharonville project is to reduce flood hazards and flood damage in the center of Sharonville.

The project is needed because the downtown area of Sharonville is at risk of flooding from the Sharon Creek Tributary during 100-year storm events. Historic flooding in Sharonville has resulted in damage to utilities, roads, and businesses. Flood Insurance Rate Map (FIRM) panel 39061C0094E encompasses the portion of the project within the detention reservoir (**Figure 5**). The FIRM (FIRM# 39061C0093E) for the city shows that a large portion of downtown Sharonville is within the 1-percent-annual-chance floodplain. The existing floodplain in the downtown area is shown in **Figure 6** and encompasses 58 residential and commercial properties, including two properties that have experienced repetitive losses, and five additional properties with flood insurance policies.

Hydraulic modeling shows that the current dam configuration and operation allows for peak flow discharges that do not adequately reduce flooding risks downstream. The modeling also shows that the existing twin box culvert under Main Street is undersized and has a reduced capacity for conveying stormwater due to a buildup of sediment and debris. The existing culvert constricts the flow of the Sharon Creek tributary, which causes flooding in the downtown area. The accumulated sediment and debris also block the flow of water and exacerbate flooding. The work proposed by this project would address the need to remove 58 residential and commercial properties in downtown Sharonville out of the 100-year floodplain.

1.4 Existing Facilities

Originally constructed in 1967, the Sharonville Detention Reservoir is a dry basin impounded by an earthen embankment (**Figure 3**). The detention reservoir's tributary drainage area is approximately 2.3 square miles. The existing reservoir has a storage capacity of approximately 115 acre-feet at the crest of the auxiliary spillway and approximately 245 acre-feet² at the top of the dam. The detention reservoir is classified as a Class III Dam based on its maximum storage

² Acre-feet is a unit of volume equal to the amount of water that covers 1 acre to 1 foot in depth.

capacity and height. The detention reservoir is listed in the National Inventory of Dams (NID) maintained by the U.S. Army Corps of Engineers (USACE). The NID categorizes the dam with a hazard potential of "high," which means the risk of a loss of human life is likely if it fails (USACE 2019).

The earthen embankment is approximately 400 feet long and located along the western portion of the reservoir. The face of the embankment is a concrete-baffled chute spillway constructed in 1991. The embankment has a maximum height of approximately 42 feet with a crest elevation of 686.2 feet. The primary spillway (principal spillway used for discharge during flood flows) is a 4-foot-diameter concrete conduit, approximately 225 feet in length. The upstream invert elevation of the conduit is approximately 644 feet and has a trash rack at the inlet. The auxiliary spillway was also constructed in 1991 and is located on top of the dam embankment (**Figure 7**). The auxiliary spillway is a 120-foot-long broad-crested spillway with a crest elevation of 675.6 feet and only operates during flood events equivalent to the 10-year flood (10-percent-annual-chance event) or larger.

The existing twin box culvert at Main Street consists of two 5-foot by 12-foot rectangular culverts with concrete slabs at the channel bottom at the inlet (**Figure 8**). The culvert transitions to two 5-foot by 10-foot rectangular culverts at the outlet with a 17-degree bend. The stream transitions back to a natural bottom at the outlet as shown in **Figure 9**. The natural channel bottom consists of dirt, gravel, and riprap. **Figure 10** illustrates the buildup of sediment and debris on the culvert bottom.

2 ALTERNATIVE ANALYSIS

2.1 Alternative 1 – No Action

Under the No Action alternative, the city would not undertake any construction to increase the storage volume of the Sharonville Detention Reservoir or remove the twin box culvert under Main Street to increase conveyance capacity. The 58 residential and commercial buildings in the downtown area, roads, sidewalks, sanitary sewer, and overhead power lines would continue to be at risk of damage during a 100-year or larger flood.

2.2 Action Alternative 2 – Proposed Action

The Proposed Action would modify the auxiliary spillway of the Sharonville Detention Reservoir with a labyrinth weir, which would increase the storage volume of the reservoir, and replace the existing twin box culvert on Main Street with an open channel box-beam bridge to increase the conveyance capacity of the stream channel.

The first component of the Proposed Action would modify the auxiliary spillway at the detention reservoir through the construction of a labyrinth weir. The proposed design is depicted in **Figure**

11 and similar to the example labyrinth weir shown in **Figure 12.** The labyrinth weir would increase the height and length of the weir at the top of the dam. The proposed weir would increase the storage volume at the detention reservoir, decrease peak flow discharge rates, and delay the timing of the peak flow during a flood event.

The increased height and weir length would allow for additional operational flexibility to manage storm flows and discharges from the reservoir while maintaining compliance with the Ohio Department of Natural Resources (ODNR) Division of Water Resources standards for dam safety.

The modification would raise the spillway crest elevation of the weir from 675.6 to 680.2 feet (North American Vertical Datum of 1988 [NAVD 88]). This modification would also raise the surface elevation of stored water during a 100-year flood event. If the Proposed Action is implemented, the peak water surface elevation of the pool would increase from 678.2 to 681.0 feet during a 100-year flood event. The Proposed Action would also decrease the peak flow discharge rate at the spillway crest by 106 cubic feet per second (cfs) during a 100-year flood event (from 1,568 to 1,462 cfs).

The proposed construction staging area for the spillway modification is located east of and adjacent to the existing auxiliary spillway as shown in **Figure 11**. Construction vehicles would access the location using the existing road located along the top of the embankment that connects to Creek Road. No road closures or detours would be necessary to modify the spillway.

The second component of the Proposed Action would replace the existing twin box culvert under Main Street with a 2-lane, box-beam bridge that allows for an open stream channel as shown in **Figure 13.** Main Street would be realigned to create a perpendicular intersection with East Sharon Road. The bridge would provide two 11-foot travel lanes and two 5-foot sidewalks adjacent to the travel lanes (32 feet in total width). Roadway embankments of compacted fill material and concrete abutments would be constructed to support the bridge and road. To construct the bridge, the city proposes to acquire a private residential property at 11005 Main Street. This property would be acquired through a purchase agreement with a willing seller. The property is a residence and owner-occupied. The acquisition would occur in accordance with Hazard Mitigation Assistance guidance addendum on property acquisition (FEMA 2015).

The Proposed Action would also restore the stream channel and riparian area along 273 feet of the alignment of the existing twin box culvert as well as approximately 75 feet upstream and 100 feet downstream of the existing culvert (approximately 450 feet total). The stream channel alignment would be modified slightly allowing for a channel bottom width consistent with the stream segments upstream and downstream of the project area. The channel bottom would double in width compared to the width of the existing twin box culvert, increasing the channel conveyance capacity.

The stream channel would be restored using natural channel design principles allowing the stream to operate with a more natural function and form. Natural channel design principles reestablish dynamic stability through an integration of processes responsible for maintaining the channel's dimension, pattern, and profile. Riffle³ structures with an inner berm feature would be created in the stream channel like patterns that occur in naturally stable streams. The inner berm feature would allow for more flow depth of the baseflow⁴ during drought conditions. Above the baseflow elevation of the stream, the upper banks of the riffle structure would use side slopes that accommodate the bankfull discharge⁵ that transition into the stable densely vegetated stream banks upstream and downstream of the project area.

Restoration of the stream banks (riparian area) would be completed using a bioengineering technique called live brush layering. This technique would be used to construct the banks in one-foot soil lifts wrapped in coir blankets (temporary erosion control blankets). Live branches would be placed in between the lifts and the face of the lift would be seeded with native herbaceous species. Over time, the root mass of the native woody and herbaceous vegetation would establish and stabilize the stream bank while the coir blanket decomposes. Areas of green open space would also be created adjacent to the stream bank in the upland area.

The Proposed Action would realign a water main, sanitary sewer lines, and overhead electric lines in the project area where the culvert is located. The work would consist of the relocation of sanitary sewer and service laterals, including clean outs, fittings, and manholes. Relocation work for the water main would consist of constructing the water mains and service branches, including fire hydrants, water meters, corporation stops, service boxes, service stops, valves, fittings, and valve boxes. The subrecipient would coordinate with the utility provider (Duke Energy) for relocation of the overhead electric lines beginning at the 30 percent design phase.

The proposed construction staging area for the culvert replacement is shown in **Figure 13.** The staging area would use an existing paved parking lot located 100 feet southwest and adjacent to the twin box culvert. Construction vehicles would access the staging area from Reading Road. Construction of the bridge could cause the temporary closure of Main Street while the culvert is being removed and the bridge is erected. To mitigate the impact, a detour route would be necessary for those residents who live on Main Street and Wyscarver Road between East Sharon Road and Glendale Milford Road. To mitigate water quality impacts, erosion and sediment control measures would be implemented including the development of a Stormwater Pollution Prevention Plan.

³ A natural, shallow flow area extending across a streambed in which the surface of flowing water is broken by waves or ripples. Typically, riffles alternate with pools along the length of a stream channel (Federal Highway Administration [FHWA] 2001).

⁴ Stream flow arising from the depletion of ground-water storage (FHWA 2002).

⁵ The discharge rate when a stream just overflows its natural banks. There is usually no frequency associated with the discharge rate (FHWA 2002).

The subrecipient anticipates a construction time frame for the project would be approximately 1.5 years. Approximately 6 months would be needed to relocate utilities and 1 year for construction of features at the detention reservoir and the culvert replacement. Equipment to be used may include machinery typically used in roadway projects such as jack hammers, excavators, backhoes, dump trucks, and concrete mixer trucks. Pile drivers would be used at the culvert replacement site to construct bridge foundations.

2.3 Alternatives Considered and Eliminated from Further Consideration

The subrecipient considered and dismissed three alternatives.

- Raising the height of the dam to entirely contain the 100-year event without the use of the auxiliary spillway
- Construction of floodwalls
- Property acquisitions

The comparative cost of raising the height of the Sharonville Detention Reservoir Dam would be an order of magnitude higher than the Proposed Action due to costs related to design, earthwork, and dam safety requirements. Although floodwalls through the City of Sharonville would be technically feasible, the existing capacity constriction at the twin box culvert and high flow rates in the stream would not be addressed through this alternative. Additionally, the cost to implement this option would likely far exceed the cost of the Proposed Action. Property acquisition was dismissed because of the number of commercial properties that would need to be acquired and degree of economic loss the community would sustain.

3 AFFECTED ENVIRONMENT AND CONSEQUENCES

Preliminary Screening of Assessment Categories

Based on a preliminary screening of resources and the Proposed Action's geographic location, the following resources would not be affected by the alternatives and do not require a detailed assessment in this EA.

- Prime and Unique Farmland: Prime and unique farmlands are protected under the Farmland Protection Policy Act (FPPA) (Public Law 97-98, 7 United States Code [U.S.C.] 4201 et seq.). The FPPA applies to prime and unique farmlands and those that are of state and local importance. The FPPA is not applicable because both project areas are located in a U.S. Census-designated urbanized area (U.S. Census Bureau 2010) and the land within the project area is committed to urban development or water storage (7 C.F.R. 658.2(a)).
- *Seismic Risks:* Executive Order (EO) 12699, Seismic Safety of Federal and Federally Assisted or Regulated New Building Construction, does not apply because there is a low

seismic risk in the project area based on seismic hazard maps developed by the U.S. Geological Survey.

- Sole Source Aquifers: Information from the Ohio Environmental Protection Agency (OEPA) indicate there are no sole source aquifers in the project area regulated by the Safe Drinking Water Act of 1974, 42 U.S.C. § 300f et seq. (OEPA 2018a).
- *Coastal Zone Management:* Coastal zone management does not apply because the project areas are not located in Ohio's designated coastal zone.
- *Coastal Barrier Resources:* The Coastal Barrier Resources Act, 16 U.S.C. § 3501 et seq. is not applicable because the Proposed Action is not within or near a Coastal Barrier System unit (U.S Fish and Wildlife Service [USFWS] 2018a).
- Wild and Scenic Rivers: The Wild and Scenic Rivers Act, 16 U.S.C. § 1271 et seq., is not applicable because there are no federally designated wild and scenic rivers in the project areas based on a review of the National Wild and Scenic Rivers System website maintained by the USFWS (USFWS 2019). The Little Miami River is designated as Wild and Scenic and is approximately 5.5 miles from the project areas. It is located in a different watershed; therefore, there would be no effect of any of the alternatives on the river.

Each of the following sections is organized either to provide a separate impact analysis for the two different project areas (detention reservoir and culvert replacement) or to consolidate the analysis into a single discussion when the impact is the same for both project areas.

3.1 Physical Environment

3.1.1 Geology, Soils, and Topography

This section provides an analysis of geology, soils, and topography. Topography was evaluated using geographic information system (GIS) data provided by Hamilton County, Ohio (Hamilton County 2018), and a report analyzing watershed conditions titled *Nonpoint Source Implementation Strategic Plan for Sharon Creek – Mill Creek* (Mill Creek Watershed Council of Communities 2016). Soils were evaluated using information from the Natural Resources Conservation Service (NRCS) Web Soil Survey (U.S. Department of Agriculture [USDA] 2019). Bedrock geology was evaluated using a geological map provided by the ODNR Division of Geological Survey (ODNR 2006).

3.1.1.1 Affected Environment

Both project areas are located in the Till Plains of the Central Lowland physiographic province, which is characterized by a flat to gently rolling land surface (Mill Creek Watershed Council of Communities 2016). Underlying bedrock in the project areas consists of alternating layers of shale and limestone, which formed during the Ordovician Period (450 to 446 million years ago) from marine origins such as the deposition of marine invertebrates (ODNR 2006).

Detention Reservoir Project Area:

The detention reservoir project area is the top of the embankment, which ranges from approximately 674 to 686 feet NAVD88 (City of Sharonville 2017). The substrate materials in the project area consist of built infrastructure, including an earthen embankment, the existing concrete spillway, and a gravel access road. The earthen embankment is composed of impervious, compacted fill and a concrete face. The NRCS reports that natural soils present beneath the embankment include Genesee loam, Eden silty clay loam, and Urban land-Alfic Udarents complex (**Figure 14**). The Genesee soil series is characterized by deep, well-drained soils at nearly level elevation (USDA 2008). The Eden series consists of deep, well-drained, and slowly permeable soils on slopes ranging from 2 to 70 percent (USDA 2011).

Culvert Replacement Project Area:

The elevation in the culvert project area ranges from approximately 581 to 595 feet NAVD88. The NRCS reports that 36 percent of the project area consists of Urban Land soils; 51 percent of Urban land-Udorthents complex, 0 to 12 percent slopes; and 13 percent of Urban land-Typic Endoaquents-Patton complex, 0 to 2 percent slopes (**Figure 15**). Urban land soils are typically compacted from development and pedestrian and vehicular traffic and thus have less pore space to store air and water (USDA 2005). Urban soils are also often modified with human deposited material or fill (USDA 2005).

3.1.1.2 Alternative 1 – No Action

There would be no short- or long-term impacts on bedrock geology or topography in either project area under the No Action alternative as no construction would take place.

Detention Reservoir Project Area:

There would be no direct impacts on soils under the No Action alternative because no construction would occur. There would be no change in the ability of the dam to retain floodwaters and no change in the downstream flows or velocities. Existing scour that may occur downstream of the dam during flood events would continue to occur. Sediments would continue to be removed from the tributary downstream of the dam and deposited downstream in areas where channel conditions result in deposition.

Culvert Replacement Project Area:

There would be no direct impacts on soils under the No Action alternative as no construction, soil disturbance, or grading would occur. Because there would be no change in the culvert sizing or configuration, it would continue to create conditions that result in the deposition of sediments in the stream channel in the vicinity of the culvert. This continued deposition would maintain the elevated flood risk in the downtown area. Flooding that extends beyond the stream channel would have the potential to cause soil erosion and change soil properties in the project area vicinity, which could affect the soil's ability to support plant growth (Soil Science Society of America 2009).

3.1.1.3 Alternative 2 – Proposed Action

There would be no short- or long-term impacts on bedrock geology in either project area.

Detention Reservoir Project Area:

The Proposed Action would have minor, short-term construction impacts on soils from earthdisturbing activities such as the construction of the concrete base slab and excavation to subgrade, which would temporarily increase the risk of erosion. Approximately 893 CY of soils would be excavated to the subgrade beneath the existing slab and road. Up to 174 CY of structural fill material and 174 CY of bedding stone would be placed for the new base slab and road.

In the long term, the Proposed Action would have negligible impacts on soils and topography because the modifications would affect the existing weir structure and man-made embankment.

Culvert Replacement Project Area:

The Proposed Action would result in temporary construction impacts on soils and topography from the excavation of the existing culvert, widening of the channel, creation of the riffle structures, stabilization, and restoration of the stream banks. Approximately 3,461 CY of soils would be excavated for the roadway and tributary channel, and to prepare the area where roadway embankments would be placed. Up to 164 CY of excavated compacted soil material (or fill material from an approved source) would be used to construct the roadway embankment.

The Proposed Action would provide minor, long-term benefits by reducing the risk of erosion during flood events along the stream banks in the project area. The widened stream channel and creation of the riffle structures would reduce erosive forces in the tributary for all flow levels. The stream bank would be restored and stabilized with native plants to prevent erosion and sedimentation into the tributary.

3.1.1.4 Best Management Practices and Mitigation Measures

If the Proposed Action is the selected alternative, then the following conditions would be implemented by the subrecipient to avoid, minimize, or mitigate potential impacts:

- All removed material will be disposed of off-site according to OEPA's Non-hazardous Waste Rules and Laws (Ohio Administrative Code [OAC] Chapter 3745).
- Erosion and sedimentation best management practices (BMPs), such as silt fences and native vegetation, will be used to reduce impacts on soils.

3.1.2 Water Resources and Water Quality

Water resources include surface water, groundwater, stormwater, and drinking water (wetlands are discussed in Section 3.2.2). The Clean Water Act (CWA) of 1977, 33 U.S.C. § 1251 et seq., regulates the discharge of pollutants (including fill material) into water, with various sections

falling under the jurisdiction of USACE and the U.S. Environmental Protection Agency (EPA). Section 404 of the CWA establishes the USACE permit requirements for discharging dredged or fill materials into waters of the United States and traditional navigable waterways. USACE regulation of activities within navigable waters is also authorized under the 1899 Rivers and Harbors Act. Under the National Pollution Discharge Elimination System (NPDES), EPA regulates both point and nonpoint pollutant sources, including stormwater and stormwater runoff. Activities in waters of the state are also regulated under Ohio law (Chapter 6111 of the Ohio Revised Code [Ohio Rev. Code]).

3.1.2.1 Affected Environment

Evaluation of water resources and water quality included both a field survey and a review of the following information sources:

- Sharon Creek Tributary-Hydrologic and Hydraulic Analysis (City of Sharonville 2017). This report was prepared by the City of Sharonville to evaluate existing and proposed floodplain conditions of a tributary to Sharon Creek that runs through the city.
- Nine-Element Nonpoint Source Implementation Strategic Plan (NPS-IS Plan) Sharon Creek

 Mill Creek HUC-12. This report was created to guide the prioritization and
 implementation of reduction strategies for nonpoint pollution sources in the Sharon
 Creek-Mill Creek Watershed (Mill Creek Watershed Council of Communities 2016).
- *Ohio Integrated Water Quality Monitoring and Assessment Report* (OEPA 2018b). OEPA produces this annual report on water quality in compliance with Section 305 of the CWA. This report is the basis for the analysis of water quality.
- Biological and Water Quality Study of Mill Creek and Tributaries (Midwest Biological Institute [MBI] and Metropolitan Sewer District of Greater Cincinnati 2011). MBI, in cooperation with the Metropolitan Sewer District of Greater Cincinnati, developed this study to determine baseline conditions of the Mill Creek watershed. The study included an intensive pollution survey that employed a high density of sampling sites for biological, chemical, and physical indicators. One sampling site included the detention reservoir area.
- *National Wetlands Inventory* (NWI) is a web-based, national scale source for identifying wetlands and surface waters and is maintained by USFWS (USFWS 2018c).
- Groundwater resource maps developed by ODNR Division of Water Resources (ODNR 1986).

Environmental scientists on the project team completed a 1-day field survey on December 19, 2018. The field survey evaluated characteristics of the stream channel, wetlands, and vegetation. The purpose of the field survey was to verify data from the NWI, characterize existing conditions, and evaluate potential impacts and future permitting requirements.

An unnamed tributary to Sharon Creek (hereinafter referred to as the tributary) runs through both project areas. The NWI classifies the tributary as a perennial stream, which was confirmed by the field survey. Since the tributary is a perennial stream and eventually flows into a traditional navigable water (Mill Creek), the stream would be regulated as a jurisdictional water of the U.S.

Both project areas are located in the tributary's watershed, which is approximately 3.4 square miles (City of Sharonville 2017). The watershed is part of the Sharon Creek-Mill Creek Watershed, which is 31.8 square miles in size (Mill Creek Watershed Council of Communities 2016). The watershed is roughly 85 percent developed, and 37 percent of its surface area is impervious (Mill Creek Watershed Council of Communities 2016).

OEPA reports that the watershed is impaired and is included on the state's 303(d) list of impaired watersheds (OEPA 2018b). Sources of impairment in the watershed include municipal and industrial discharges, combined and sanitary sewer overflows, urban and agricultural runoff, on-site sewage systems, construction, hydromodification, and channelization (OEPA 2018b). In the tributary through the project area, the sources of impairment are altered hydrology and urban runoff, and the causes of impairment are sedimentation and chlorides (MBI and Metropolitan Sewer District of Greater Cincinnati 2011).

The Greater Cincinnati Water Works (GCWW) provides drinking water to the City of Sharonville and most of Hamilton County. The majority of the GCWW drinking water supply comes from the Ohio River, and the remaining supply is drawn from 10 wells in the Great Miami Aquifer (GCWW 2018). None of GCWW's water sources are in the Sharon Creek-Mill Creek Watershed.

Groundwater underlying the project areas is contained within interbedded shale and carbonate aquifers. Groundwater resources are generally poor but may occur in weathered or broken strata (OEPA 2018a; ODNR 1986).

Stormwater in the City of Sharonville is managed by the Hamilton County Stormwater District, which was established to fulfill the federally mandated stormwater program required by the CWA (Hamilton County Stormwater District 2018).

Detention Reservoir Project Area:

The tributary runs through the detention reservoir. It passes under the dam embankment through a concrete conduit 4 feet in diameter and 225 feet in length. The conduit serves as the primary spillway for the detention reservoir. The detention reservoir remains dry between storm events. During storm events, the detention reservoir stores and slowly releases water, which helps to manage stormwater and reduce the risk of the 100-year flood for downstream areas. Currently, the discharge rate from the dam during a 100-year flood event is 1,946 cfs at a point above Reading Road (City of Sharonville 2017).

Culvert Replacement Project Area:

In the culvert replacement project area, the tributary transitions from a natural channel with dirt, gravel, riprap, and slabs of concrete along the channel bottom to a twin box culvert that is 273 feet in length. The culvert has a concrete bottom and sides lined with riprap and concrete walls. At the end of the box culvert, the stream transitions back to a natural bottom. The stream banks within the project area are relatively stable due to concrete rubble riprap and woody vegetation.

3.1.2.2 Alternative 1 – No Action

The No Action alternative would have no impact on groundwater resources, and there would be no withdrawal of groundwater in either project area.

Detention Reservoir Project Area:

Under the No Action alternative, the weir would not be modified, and there would be no change in water resources or water quality in the project area. Floodwaters would continue to spread throughout the downtown areas of Sharonville, resulting in the potential for contaminants from flooded properties to be released into surface waters.

Culvert Replacement Project Area:

Under the No Action alternative, the tributary would continue to be at risk of contamination from materials released from flooded properties and sedimentation due to the constricted culvert. The tributary banks will continue to be degraded from the use of concrete rubble and degraded riparian vegetation that do not provide natural filtering of stormwater runoff (Mill Creek Watershed Council of Communities 2016).

3.1.2.3 Alternative 2 – Proposed Action

The Proposed Action would have long-term benefits on surface water resources and water quality in the tributary. The Proposed Action would reduce the risk of the 100-year flood in downtown Sharonville, which would reduce the risk of contamination into the tributary because floodwaters would no longer spread extensively through commercial and residential areas. The Proposed Action would have no impact on groundwater resources, and there would be no withdrawal of groundwater in either project area.

Detention Reservoir Project Area:

There would be negligible, short-term construction impacts on water resources and quality at the detention reservoir. Modification of the weir would not impact the tributary below the ordinary high-water mark (OHWM). The proposed construction footprint would be limited to the top of the dam embankment, and an adequate staging area is present that would not require equipment to enter the stream channel. The BMPs outlined in Section 3.1.2.4 would prevent inadvertent and indirect discharges into the channel and surface waters.

In the long term, the Proposed Action would increase the flood storage capacity and pool surface elevation of the detention reservoir compared to existing conditions. Currently, the water surface elevation in the reservoir during a 100-year flood event is 678.2 feet. The proposed labyrinth weir would increase the pool surface elevation to 681.0 feet during a 100-year flood event and to 681.3 feet during a 500-year flood event (City of Sharonville 2017). The Proposed Action would also slow the discharge rate of water from the reservoir into the tributary during flood events. The discharge rate during a 100-year flood event would be reduced by 163 cfs at a point above Reading Road near the culvert and downtown Sharonville (City of Sharonville 2017). As more floodwater is retained in the detention reservoir, the potential for sedimentation downstream during floods would be reduced.

Culvert Replacement Project Area:

The culvert replacement portion of the Proposed Action would result in short-term impacts on water resources and quality. Construction activities would be conducted within the stream channel to remove the culvert, stabilize and reshape the stream banks, construct the bridge and riffle structures. The Proposed Action would impact the tributary below the OHWM and may increase the risk of erosion in the short term during the construction period.

In the long term, the Proposed Action would have minor benefits on water quality by daylighting approximately 273 linear feet of stream and by restoring stream and riparian functions along approximately 450 linear feet of the stream channel (75 feet upstream of the existing culvert and 100 feet downstream). The restoration estimate includes 32 feet of stream, which would be covered by the bridge span, and the stream bank areas adjacent to the concrete bridge abutments. Restored riparian vegetation would slow the rate of runoff, which would reduce soil erosion and filter stormwater, providing water quality benefits. Shading from restored riparian vegetation would moderate water temperatures (University of Tennessee 2007).

The Proposed Action would require a permit under the CWA and work that would be below the OHWM would be subject to approval by USACE.

3.1.2.4 Best Management Practices and Mitigation Measures

If the Proposed Action is the selected alternative, then the following conditions would be implemented by the subrecipient to avoid, minimize, or mitigate potential impacts:

- The subrecipient will obtain permits for work within waters of the U.S. in accordance with Section 401 and 404 of the CWA.
- The subrecipient will develop a stormwater pollution prevention plan for earthdisturbing activities in accordance with the OEPA NPDES permit (OEPA Permit No. OHC000005).
- Materials used for fill or bank protection will consist of suitable material free from toxic contaminants in other than trace quantities.

• Excavated materials will be disposed of in upland areas away from waters of the state.

3.1.3 Floodplain Management (Executive Order 11988)

EO 11988, Floodplain Management, requires federal agencies to take actions to minimize occupancy of and modifications to floodplains. EO 11988 prohibits federal agencies from funding construction in the 100-year floodplain unless there are no practicable alternatives. FEMA's regulations for complying with EO 11988 are found in 44 C.F.R. Part 9. A summary of the eight-step decision-making process to ensure compliance with EO 11988 is provided in Appendix B.

3.1.3.1 Affected Environment

The existing floodplain in both project areas is a riverine floodplain associated with the tributary. Riverine floodplains provide ecological benefits such as riparian vegetation that slows the rate of stormwater runoff, reduces soil erosion, and filters sediment before it reaches the water (University of Tennessee 2007). Riverine floodplains are generally biologically diverse as they provide important habitat for aquatic and terrestrial species (University of Tennessee 2007). The natural functions of the tributary's floodplain have been degraded by past development, particularly in the downtown area.

Detention Reservoir Project Area:

The existing base flood elevation in the project area for the detention reservoir is 678.2 feet (NAVD 88). Because the weir modification would be intended to pass the 100-year flood flows, the project area at the embankment is considered to be within the floodplain. In addition, the project area is shown as partially within the 100-year floodplain on the FIRMette provided in **Figure 5** (FIRM #39061C0094E). Therefore, the project area will be analyzed as partially within the floodplain.

However, the hydrologic and hydraulic study developed for the City of Sharonville shows that the tributary leading to the detention reservoir does not have a 100-year floodplain associated with it. (City of Sharonville 2017).

Culvert Replacement Project Area:

The base flood elevation for the culvert project area is approximately 593.0 feet (NAVD 88) as measured at Main Street on the FIRMette provided in **Figure 6** (FIRM #39061C0093E). Most of the project area is within the 100-year floodplain of the tributary as shown on the FIRMette.

3.1.3.2 Alternative 1 – No Action

Under the No Action alternative, there would be no change in the existing floodplain conditions in either project area. However, 58 properties in the downtown area would remain at risk of flooding during a 100-year or larger event.

3.1.3.3 Alternative 2 – Proposed Action

The Proposed Action would have moderate beneficial effects on the tributary, reducing the size of the 100-year floodplain by approximately 12.6 acres, as shown in **Figure 16.** In the long term, the hydrologic and hydraulic study predicts that the Proposed Action would reduce the base flood elevation of the 100-year flood event at Main Street from 593.3 to 588.5 feet (NAVD 88) (City of Sharonville 2017). Fifty-eight properties in the downtown area would be removed from the existing 100-year floodplain and would no longer be at risk of flooding during a 100-year event.

Detention Reservoir Project Area:

There would be short-term impacts on the floodplain in the project area because construction of the labyrinth weir would occur within the mapped 100-year floodplain. Impacts would include the placement of fill material in the floodplain, which would reduce the capacity and constrict the flow of floodwaters at the weir location.

In the long term, construction of the labyrinth weir would raise the base flood elevation upstream and result in an expansion of the detention reservoir area. This increased flood storage would reduce flooding downstream. The pool surface elevation would increase from 678.2 to 681.0 feet during a 100-year flood event. Although the Proposed Action would increase the size of the pool during a 100-year flood event, existing structures adjacent to the detention reservoir are set far enough back that they would not be at risk of flooding. The size of the upstream floodplain would increase and because the new floodplain area is largely forested, the new floodplain would provide natural functions such as habitat and stormwater filtration.

Because the Proposed Action would raise the base flood elevation at the detention reservoir, the subrecipient must obtain a Conditional Letter of Map Revision (CLOMR) from FEMA before the city can issue permits for the work. The subrecipient must also obtain a final Letter of Map Revision (LOMR). To obtain the LOMR, the subrecipient must supply FEMA with as-built data to revise the FIRMs for both project areas. The LOMR review process would ensure that the increased elevation would not exacerbate flooding of structures adjacent to the detention reservoir and would reduce the risk of flooding for residential and commercial property owners in the downtown area. The subrecipient would also need to obtain a floodplain development permit for construction in the 100-year floodplain pursuant to Chapter 1321.04 of the city's building code (City of Sharonville 2018a).

Culvert Replacement Project Area:

There would be short-term impacts on the floodplain in the culvert project area, including ground disturbance that could result in short-term erosion and sedimentation. The construction of the bridge and the stabilization and reshaping of the channel would remove vegetation that provides habitat and stormwater filtration benefits.

In the long term, the Proposed Action would have minor, beneficial impacts on the tributary's floodplain with the restoration of 450 linear feet of stream, 5,545 square feet of riparian area, and 16,402 square feet of green open space adjacent to the stream (**Figure 13**). This restoration would improve the natural and beneficial values of the tributary's floodplain, including natural erosion control, surface water quality maintenance, and biological productivity.

3.1.4 Air Quality

The Clean Air Act (CAA), 42 U.S.C. § 7401 et seq., requires EPA to set National Ambient Air Quality Standards (NAAQS) that define the concentrations of air pollutants that may not be exceeded within a given period to protect human health (primary standards) and welfare (secondary standards). Current criteria pollutants are carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), lead (Pb), particulate matter (PM), and sulfur dioxide (SO₂).

Federally funded actions in nonattainment and maintenance areas are subject to EPA conformity regulations, 40 C.F.R. Parts 51 and 93. The air conformity analysis process ensures that emissions of air pollutants from planned federally funded activities would not affect the state's ability to achieve the CAA goal of meeting the NAAQS. Section 176(c) of the CAA requires that federally funded projects must not cause any violations of the NAAQS, increase the frequency or severity of NAAQS violations, or delay timely attainment of the NAAQS or any interim milestone. The emissions from construction activities are subject to air conformity review.

An area is classified as nonattainment when it does not meet the NAAQS standards. Under the general conformity regulations, a determination for federal actions is required for each criteria pollutant or precursor in nonattainment or maintenance areas where the action's direct and indirect emissions have the potential to emit one or more of the six criteria pollutants at rates equal to or exceeding the prescribed de minimis rates for that pollutant. The prescribed annual rates are 50 tons of volatile organic compounds and 100 tons of nitrogen oxides (NO_x) (ozone precursors), and 100 tons of PM_{2.5}, SO₂, or NO_x (PM_{2.5} and precursors).

The primary data source used for the air quality analysis is the *Nonattainment Areas for Criteria Pollutants* (Green Book) developed and maintained by EPA (EPA 2018b).

3.1.4.1 Affected Environment

The entire state of Ohio is in attainment for CO, NO_2 , Pb, PM_{10} , and 24-hour $PM_{2.5}$. EPA reports that Hamilton County does not currently meet attainment standards for O_3 (EPA 2018b).

3.1.4.2 Alternative 1 – No Action

No construction activities would occur under the No Action alternative. Therefore, no short- or long-term impacts on air quality are anticipated in either project area because there would be no change in existing emissions levels or patterns.

3.1.4.3 Alternative 2 – Proposed Action

The Proposed Action would have short-term impacts on air quality due to the use of construction equipment with diesel and gasoline engines in both project areas. Emissions from construction equipment would result in negligible temporary increases in the levels of some pollutants, including CO, volatile organic compounds, NO₂, O₃, and PM. Emission increases would be temporary and localized, and only negligible adverse impacts on air quality would occur. These impacts would fall below de minimis thresholds established by EPA in 40 C.F.R. § 93.153, based on a review of the proposed construction schedule and equipment that would be used.

During the construction phase, exposed soil could temporarily increase airborne particulate matter in both project areas. The use of BMPs such as watering of exposed soil to manage fugitive dust and the restoration of the stream channel with vegetation would reduce the effect of dust on air quality to a negligible level.

The Proposed Action would have no long-term adverse impacts on air quality, and an air quality permit would not be required for any project-related activities. The Proposed Action would not create any long-term air quality emissions or be a source of new emissions in either project area.

3.1.4.4 Best Management Practices and Mitigation Measures

If the Proposed Action is the selected alternative, then the following conditions would be implemented by the subrecipient to avoid, minimize, or mitigate potential impacts:

- To reduce the emission of criteria pollutants, construction equipment engine idling will be minimized to the extent practicable, and engines will be kept properly maintained.
- Open construction areas will be minimized and watered as needed to minimize particulates such as fugitive dust.

3.2 Biological Environment

3.2.1 Terrestrial and Aquatic Environment

Terrestrial and aquatic environments include the native and invasive vegetation, fish and wildlife, and their habitats that can be found in the project areas. Terrestrial and aquatic environments in the project area were evaluated based on watershed conditions as reported by the Mill Creek Watershed Council of Communities (2016), the hydrologic and hydraulic study (City of Sharonville 2017), and findings from the field survey completed in December 2018.

EO 13112, Invasive Species, requires federal agencies to prevent the introduction of invasive species and provide for their control to minimize the economic, ecological, and human health impacts that invasive species cause.

3.2.1.1 Affected Environment

Invasive species that are present in both project areas include honeysuckle (*Lonicera maackii* and *Lonicera japonica*) and English ivy (*Hedera helix*). The invasive emerald ash borer (*Agrilus planipennis*) may also be present (Mill Creek Watershed Council of Communities 2016).

Detention Reservoir Project Area:

The detention reservoir project area is located primarily along the top of the dam and does not generally support terrestrial or aquatic life. The only vegetation present in the project area is upland turf grass, which exists on the slope of the dam and extends approximately 350 feet east of the dam. The project area and the detention reservoir are surrounded by a deciduous forest that is dominated by oak species. The forest may support common wildlife that can live in a fragmented environment, such as white-tailed deer (*Odocoileus virginianus*) and the eastern fox squirrel (*Sciurus niger*). The detention reservoir area and surrounding forestland represents an isolated pocket of natural habitats surrounded by urban and residential development.

Culvert Replacement Project Area:

The existing twin box concrete culvert provides poor terrestrial and aquatic environmental conditions. The culvert constricts stream flow, altering natural flow velocities. Sediment and inorganic debris have accumulated on the bottom of the culvert and the stream channel up and downstream of the culvert as shown in **Figure 8** and **Figure 10**. The project area surrounding the culvert is developed in commercial and residential uses, and a high percentage of the land area is covered by impervious surfaces such as rooftops and parking lots (City of Sharonville 2017). Given the urban and highly modified nature of the stream, the species that would be regularly present would include relatively small species that are tolerant of habitat disturbance such as creek chub (*Semotilus atromaculatus*) and striped shiner (*Luxilus chrysocephalus*).

Stream banks up and downstream from the culvert support woody vegetation, and common species include sycamore (*Platanus occidentalis*), American elm (*Ulmus americana*), and hackberry (*Celtis occidentalis*).

3.2.1.2 Alternative 1 – No Action

Detention Reservoir Project Area:

The No Action alternative would not directly impact terrestrial and aquatic habitats because there would be no construction and the project area does not generally support terrestrial or aquatic life. The No Action alternative is unlikely to result in the spread of invasive species because it would not create disturbances that promote invasive species.

Culvert Replacement Project Area:

The No Action alternative would not directly impact terrestrial and aquatic habitats in the project area for the culvert replacement because there would be no construction. However, the stream channel functions and values would continue to be degraded by the culvert that

constricts the stream channel and disconnects the riparian habitats along the stream. Over time, this loss of connectivity and habitats would result in additional degradation of biological resources. In addition, repetitive flooding in the area would continue to impact terrestrial and aquatic habitats through erosion, potential loss of trees and vegetation, and water quality impacts from contaminants released from damaged structures. Erosion would disturb soils and existing vegetation, resulting in the spread of invasive species.

3.2.1.3 Alternative 2 – Proposed Action

Detention Reservoir Project Area:

Under the Proposed Action, there would be negligible, short-term construction impacts on terrestrial and aquatic habitats because the project area contains limited biodiversity consisting primarily of non-native grasses and hard surfaces. Construction of the Proposed Action would not affect existing forested habitats or the stream surrounding the project area.

Under the Proposed Action, the pool elevation in the detention reservoir would be higher and would result in flooding farther into the forested habitats surrounding the reservoir during 100-year or larger flood events. This intermittent flooding would be unlikely to result in adverse impacts because the duration and extent of the additional flooding would be unlikely to result in changes in vegetation species. The Proposed Action is unlikely to cause the spread of invasive species in the detention reservoir project area because of the minimal amount of earth disturbance and any disturbed areas would be replanted or paved.

Culvert Replacement Project Area:

Under the Proposed Action, terrestrial and aquatic habitats would experience short-term construction impacts from removal of the culvert and vegetation on the stream bank and construction of the bridge.

The Proposed Action would benefit terrestrial and aquatic habitats in the long term by restoring 5,545 square feet of riparian habitat and 16,402 square feet of adjacent green open space in the project area (**Figure 13**). By removing the culvert and creating the riffle structures, the Proposed Action would benefit aquatic habitats by returning the stream to a more natural channel shape and morphology. This would reduce the magnitude of physical forces working on the river bed. Approximately 273 feet of stream channel would be daylighted, allowing natural stream functions to be restored along the entire length of the channel.

Stream restoration would include riffle structures like those that occur naturally in stable streams. The stream bank would be stabilized with live brush layering to create native woody and herbaceous riparian vegetation along the stream. Riparian vegetation would provide stormwater runoff filtration, improving water quality for aquatic life, and produce leaf litter that supports the aquatic food web. Under the Proposed Action, invasive plant or animal species would not be expected to spread within the project area because the revegetation of the stream channels would use native plants to establish a dense vegetative cover.

3.2.2 Wetlands (Executive Order 11990)

EO 11990, Protection of Wetlands, requires federal agencies to take action to minimize the loss of wetlands. Activities that disturb jurisdictional wetlands require a permit from USACE under Section 404 of the CWA of 1977 (33 U.S.C. § 1344).

The EPA defines wetlands as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (40 C.F.R. § 122.2).

3.2.2.1 Affected Environment

NWI maps were reviewed to identify any potential wetlands in both project areas (USFWS 2018c). No wetlands are present in the project area (**Figure 17** and **Figure 18**). A field survey was conducted on December 19, 2018, to confirm the findings from the NWI.

3.2.2.2 Alternative 1 – No Action

The No Action alternative would have no impact on wetlands in either project area because no wetlands are present.

3.2.2.3 Alternative 2 – Proposed Action

The Proposed Action would have no impact on wetlands because there are no wetlands present in either project area. Therefore, the Proposed Action would be consistent with EO 11990.

3.2.3 Threatened and Endangered Species

The Endangered Species Act of 1973, 16 U.S.C. § 1531, provides a framework for the conservation of threatened and endangered species and their habitats. Federal agencies are required to ensure that actions they fund, authorize, or carry out are not likely to jeopardize the continued existence of any listed species (including plant species) or result in the destruction or adverse modification of designated critical habitats for such species.

3.2.3.1 Affected Environment

OEMA, on behalf of the subrecipient, coordinated with ODNR in May 2018 to conduct a search of the Natural Heritage database (see Appendix C, ODNR correspondence) to identify any federally listed species within a 1-mile radius of the project areas. In addition, the USFWS Information for Planning and Consultation (IPaC) web search tool was used to identify the potential for proposed, threatened, or endangered species to be present in the project areas (USFWS 2018b). There are no designated critical habitats present in or near the project areas.

The IPaC search identified the potential for several listed species to occur in or near the project areas. The Indiana bat (*Mytosis sodalist*) and northern long-eared bat (*Mytosis septentrionalis*)

may occur in forested areas near the detention reservoir or along the stream channel during the summer months. Fanshell (*Cyprogenia stegaria*), pink mucket pearly mussel (*Lampsilis abrupta*), rayed bean (*Villosa fabalis*), sheepnose mussel (*Plethobasus cyphyus*), and the snuffbox mussel (*Epioblasma triquetra*) are mussels that occur in larger streams and rivers, but there is no suitable habitat for these species in the project area.

Running buffalo clover (*Trifolium stoloniferum*) can be found in partially shaded woodlots, mowed areas (lawns, parks, cemeteries), and along streams and trails. Running buffalo clover requires periodic disturbance and a somewhat open habitat to successfully flourish but cannot tolerate full sun, full shade, or severe disturbance (USFWS Midwest Region 2018). These conditions are present along the tributary. The ODNR Natural Heritage database identified known occurrences of running buffalo clover within a 1-mile radius but not the project areas specifically.

3.2.3.2 Alternative 1 – No Action

The No Action alternative would not directly affect state or federally listed threatened or endangered species because there would be no construction. However, flood events that disturb forested riparian areas could create openings that would adversely affect running buffalo clover if it is present along the creek.

3.2.3.3 Alternative 2 – Proposed Action

There would be no effect on the Indiana bat and northern long-eared bat as long as any proposed tree removal conforms to seasonal restrictions. There would be no effect on the fanshell, pink mucket pearly mussel, rayed bean, and sheepnose mussel because suitable habitat is not present in either project area for any of these species.

The Proposed Action may affect, but is not likely to adversely affect, running buffalo clover because the project would benefit the species in the long term by restoring the tributary to a more natural state with native species in the riparian corridor. There are several avoidance and minimization measures that would be implemented by the subrecipient to avoid adverse impacts on listed species. In October 2018, USFWS concurred with the determination that the Proposed Action may affect, but would not be likely to adversely affect, running buffalo clover (Appendix C).

3.2.3.4 Best Management Practices and Mitigation Measures

If the Proposed Action is the selected alternative, then the following conditions would be implemented by the subrecipient to avoid or minimize impacts:

- Tree removal will not be permitted between April 15 and September 30 to avoid effects on the Indiana bat and northern long-eared bat.
- To avoid impacts on running buffalo clover, the following measures will be implemented:

- Trees will be removed selectively to retain a dappled shade environment.
- Invasive plant species will be controlled through manual pulling or selective herbicide application on cut stems.
- No foliar herbicide application will occur within 25 feet of running buffalo clover sites.
- Burning will be avoided.
- Soil disturbance will be minimized.

3.2.4 Migratory Birds

A migratory bird is any species or family of birds that live, reproduce, or migrate within or across international borders at some point during their annual life cycle. The Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. §§ 703–711), provides protection for migratory birds and their nests, eggs, and body parts from harm, sale, or other injurious action. All native birds, including common species such as American robin (*Turdus migratorius*) and American crow (*Corvus brachyrhynchos*) are protected by the Migratory Bird Treaty Act.

The Bald and Golden Eagle Protection Act of 1940, 16 U.S.C. § 668, prohibits the take, possession, sale, or other harmful action, of any bald eagle (*Haliaeetus leucocephalus*) or golden eagle (*Aquila chrysaetos*), alive or dead, including any part, nest, or egg (16 U.S.C. § 668(a)). Although bald and golden eagles are no longer considered threatened or endangered, the species are protected separately by this federal law.

3.2.4.1 Affected Environment

The project area would support a variety of migratory birds. An IPaC search identified two representative migratory bird species which may be present in the project area depending on the season, including the red-headed woodpecker (*Melanerpes erythrocephalus*) and wood thrush (*Hylocichla mustelina*) (USFWS 2018b). The breeding season for the red-headed woodpecker extends from early May to mid-September. The breeding season for the wood thrush extends from mid-May to the end of August. OEMA contacted the USFWS in April 2018 to confirm that no bald eagle nests were present in or near the project areas (Appendix C).

3.2.4.2 Alternative 1 – No Action

There would be no effect on bald eagles as a result of the No Action alternative because there are no known bald eagle nests within 0.5 mile of the project areas as confirmed by USFWS (see correspondence in Appendix C).

Detention Reservoir Project Area:

The No Action alternative would not directly impact migratory birds because there would be no construction and the project area does not generally support migratory bird habitat.

Culvert Replacement Project Area:

The No Action alternative would not directly impact migratory birds because there would be no construction. However, a 100-year flood event or larger could cause a loss of vegetation and trees, impacting forest and riparian areas that may provide habitat for migratory birds.

3.2.4.3 Alternative 2 – Proposed Action

There would be no effect on bald eagles as a result of the Proposed Action because there are no known bald eagle nests within 0.5 mile of the project areas as confirmed by USFWS (see correspondence in Appendix C).

Detention Reservoir Project Area:

Short-term construction impacts are unlikely at the detention reservoir because no trees or vegetation would be removed. Modifying the detention reservoir with a labyrinth weir is unlikely to impact migratory bird species in the long term because the project area does not generally support migratory bird habitat.

Culvert Replacement Project Area:

There may be minor, short-term impacts on migratory birds from the removal of vegetation in the project area during construction. However, removal of the culvert and restoration of aquatic and terrestrial habitat along the stream channel would benefit migratory bird habitat in the long term.

3.2.4.4 Best Management Practices and Mitigation Measures

If the Proposed Action is the selected alternative, then tree removal will be avoided during the breeding bird season from April 15 to September 30.

3.3 Hazardous Materials

Hazardous materials are those substances identified by the Comprehensive Environmental Response, Compensation, and Liability Act, as amended by the Superfund Amendments and Reauthorization Act, and the Toxic Substances Control Act (TSCA). The Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA), which was further amended by the Hazardous and Solid Waste Amendments, defines hazardous wastes. Hazardous materials and waste include substances that, because of their quantity, concentration, physical, chemical, or infectious characteristics, may present substantial danger to public health or the environment when released or otherwise improperly managed.

3.3.1 Affected Environment

Sites within or adjacent to the project area, regulated by federal hazardous materials laws, were identified using the EPA NEPAssist web portal (2018c) to determine if there are known and documented environmental issues or concerns in the project areas.

Detention Reservoir Project Area:

NEPAssist did not identify any regulated sites within a 0.5-mile radius of the project area for the detention reservoir (EPA 2018c).

Culvert Replacement Project Area:

NEPAssist identified 10 regulated sites within a 0.5-mile radius of the project area as summarized in **Table 1**. Six sites are regulated through programs under RCRA, two sites are regulated under the CAA, one site is regulated under the TSCA, and one site is listed in the Toxic Release Inventory (TRI) database. None of these sites are within the project area. NEPAssist did not identify any sites in the project area or vicinity listed as wastewater dischargers, Superfund sites, or in the Brownfields Program database (EPA 2018c).

Site No.	Site Name	Contact Address	Applicable Law/ Regulation
1	Esquire Dry Cleaners of Sharonville Inc.	11271 Reading Road Sharonville, OH 45241	САА
2	Schottmiller's Auto Body	11245 Reading Road Sharonville, OH 45241	RCRA
3	Sharonville Elementary School	11150 Maple Street Sharonville, OH 45241	RCRA
4	Majestic Cleaners	11053 Reading Road Cincinnati, OH 45241	RCRA
5	Queen City Warehouse	3220 East Sharon Road Cincinnati, OH 45241	TSCA
6	Sharonville Pop	3235 Sharon Road Sharonville, OH 45241	RCRA
7	Norfolk Southern Railway Company	3155 East Sharon Road Evendale, OH 45241	CAA
8	Nisbet-Brower Marble, LLC	10801 Reading Road Cincinnati, OH 45241	TRI
9	Jewell Dry Cleaners	10745 Reading Road Cincinnati, OH 45241	RCRA
10	Speedway 9633	10760 Reading Road Evendale OH 45241	RCRA

Table 1: Regulated Sites in the Project Vicinity

Source: EPA 2018c.

3.3.2 Alternative 1 – No Action

No construction would occur under the No Action alternative in either project area; therefore, there would be no impacts related to hazardous materials either from the use of construction equipment or from the exposure of contaminated materials through ground-disturbing activities. Contaminated materials in the floodplain could be disturbed during a flood event if facilities

containing hazardous materials are damaged or if ground is eroded exposing previously unidentified hazardous materials.

3.3.3 Alternative 2 – Proposed Action

The Proposed Action would involve the use of construction equipment in both project areas and there is a potential for minor, short-term impacts from leaks of oils, fuels, and lubricants from the use of construction equipment. The use of equipment in good condition would reduce any potential effects to an insignificant level. There is also a potential of exposure of previously unknown contaminated materials as a result of excavation and removal of soil and construction debris. None of the identified facilities are likely to be affected by the Proposed Action because of their distance from proposed activities. All of the facilities are in compliance and would not affect the project areas.

No long-term impacts from hazardous materials are anticipated in either project area. The Proposed Action would not add any hazardous facilities, operations, or chemicals to the project areas and would decrease the risk to facilities that could release hazardous materials during a flood.

3.3.4 Best Management Practices and Mitigation Measures

If the Proposed Action is the selected alternative, then the following conditions would be implemented by the subrecipient to avoid, minimize, or mitigate potential impacts:

- Construction equipment will be kept in good working order.
- Any equipment to be used over, in, or within 100 feet of water will be inspected daily for fuel and fluid leaks. Any leaks will be promptly contained and cleaned up, and the equipment will be repaired.
- Any hazardous or contaminated materials discovered, generated, or used during project implementation will be disposed of and handled by the subrecipient in accordance with applicable federal, state, and local regulations.

3.4 Socioeconomics

3.4.1 Zoning and Land Use

The City of Sharonville is responsible for development and enforcement of land use plans, zoning codes, and the official zoning map where the projects are located. In 2010, the city completed a land use plan for the downtown area titled *Downtown Strategic Master Plan – Draft* (Master Plan) (City of Sharonville 2010). This plan provides long-term land use goals for the downtown, including the area within the 100-year floodplain. The Master Plan was used to evaluate the project's consistency with the city's land use goals and downtown revitalization efforts. The zoning code (City of Sharonville 2018a) and map (City of Sharonville 2016) specify the permitted

land uses within the project areas. The code and map were reviewed to determine the project's consistency with the city's zoning code.

3.4.1.1 Affected Environment

Detention Reservoir Project Area:

Existing land use in the project area consists of the detention reservoir and dam embankment, as shown in **Figure 19**. The project area is zoned as PF (Public Facilities) as shown in **Figure 20**. Existing land use conforms with the designated zoning. The PF zone allows for public utility facilities, including public sewage treatment, water treatment, and similar uses.

Culvert Replacement Project Area:

Existing land uses in the project area consist of single- and two-family residential properties, transportation right-of-way, office parking, the tributary and stream banks as shown in **Figure 21**. Adjacent land uses include a mix of residential, commercial, and office properties. The project area is zoned as SM-D (Support Mixed – Downtown), CB (Central Business), and R1-B (Residential) as shown in **Figure 22**. The residential structures located at 11005 and 11024 Main Street conform to existing zoning. The southwest portion of the project area extends into a parking area for a funeral home located at 10980 Reading Road in the SM-D zone.

3.4.1.2 Alternative 1 – No Action

Detention Reservoir Project Area:

The No Action alternative would not impact existing zoning in the project area nor would there be any change to the existing land uses.

Culvert Replacement Project Area:

The No Action alternative would not impact existing zoning for properties in the project area nor would there be any short-term changes to existing land uses. Unmitigated flood risks would continue to impact residential and commercial land uses in the downtown area over the long term. Properties that are flooded repeatedly could change uses or be abandoned altogether. The Master Plan identifies the 100-year floodplain as a constraint that limits the development potential of the downtown area. The Master Plan's land use goals and objectives call for flood risk elimination to create a functional, revitalized downtown with increased residential population density. As such, the No Action alternative is not consistent with the Master Plan.

3.4.1.3 Alternative 2 – Proposed Action

Detention Reservoir Project Area:

The Proposed Action would have no impact on the current land use and zoning of the project area since the area would continue to function as a detention reservoir. No changes to the existing zoning would be necessary, and modification of the embankment and detention reservoir would not conflict with current land use plans.

Culvert Replacement Project Area:

The Proposed Action would not impact existing zoning in the project area. To realign the road and construct the bridge, the city would acquire and demolish the residential property at 11005 Main Street. This property would be acquired through a purchase agreement with a willing seller. The land use would change from residential to transportation and open space uses. As shown in **Figure 23**, the tributary also runs through two private properties (11024 Main Street and 10980 Reading Road). Stream bank restoration would occur on these properties; however, they are not proposed for acquisition nor would existing land uses change.

The Proposed Action would be consistent with the Master Plan. By removing the downtown area from the 100-year floodplain, the Master Plan envisions a revitalized downtown in areas that are currently restricted by flood risks. The Proposed Action would also meet the Master Plan's goal of expanding views of the tributary and creating green space.

3.4.1.4 Best Management Practices and Mitigation Measures

If the Proposed Action is the selected alternative, then the following conditions would be implemented by the subrecipient to avoid, minimize, or mitigate potential impacts:

- The subrecipient will acquire property in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (42 U.S.C. 4601 et seq.) and implementing regulations 49 C.F.R. 24 as well as policy guidance provided by FEMA in the *Hazard Mitigation Assistance Guidance Addendum* (FEMA 2015).
- Reimbursement benefits will include just compensation at fair market value for displaced property owners.
- The affected owners will be eligible to receive residential relocation assistance.

3.4.2 Visual Resources

3.4.2.1 Affected Environment

Detention Reservoir Project Area:

Existing visual resources in the project area include trees and other vegetation that surround the detention reservoir. Trees and vegetation shield the view of the reservoir from nearby residential properties. An access road off Creek Road provides access to the reservoir and the embankment.

Culvert Replacement Project Area:

Existing visual resources in the project area include vegetation, the tributary, and a historic property listed in the National Register of Historic Places (NRHP) called the Twelve Mile House (NRHP ID #76001452). The tributary daylights before and after transitioning into a culvert on Main Street and on Reading Road. The tributary is currently shielded by trees and is not highly

visible. Views of the area are largely limited to those living in the residential properties and the patrons and workers of the adjacent commercial properties.

3.4.2.2 Alternative 1 – No Action

Detention Reservoir Project Area:

Under the No Action alternative, the spillway would not be modified, and there would be no changes to the visual resources in the project area.

Culvert Replacement Project Area:

Under the No Action alternative, there would be no changes to the visual resources in the project area. However, unmitigated floods could damage properties, roads, sidewalks, and overhead powerlines and reduce the visual quality of the area until restoration occurs and debris is removed.

3.4.2.3 Alternative 2 – Proposed Action

Detention Reservoir Project Area:

The Proposed Action would cause short-term impacts on visual resources. Construction equipment, excavation, and staging areas would be visible to vehicles travelling along Creek Road. Although the project area is largely screened by trees, it could be visible particularly during winter. As the project area is already developed with the detention reservoir, the proposed spillway modifications would not substantially alter the physical appearance of the reservoir or adversely affect visual resources in the long term.

Culvert Replacement Project Area:

The Proposed Action would cause short-term visual impacts from construction equipment, excavation, tree removal, and equipment and material staging. The Proposed Action would temporarily impact the visual environment for nearby residents and people using the adjacent roads.

The Proposed Action would provide long-term benefits to visual resources. The Proposed Action would restore the stream and riparian area and create areas of greenspace with native plantings. The existing culvert would be replaced by a bridge over a natural channel, and the stream would become more visible to viewers. Overall, the project area would change to a more natural appearance.

3.4.3 Noise

Sounds that disrupt normal activities or otherwise diminish the quality of the environment are considered noise. Noise events that occur during the night (10 p.m. to 7 a.m.) are more disturbing than those that occur during normal waking hours (7 a.m. to 10 p.m.). Noise is typically associated with climatic conditions (wind, rain), transportation (traffic on roads, airplanes), and other "life sounds" (people talking, children playing, dogs barking). The potential

effects of noise are related to distance from the source, background levels, and the randomness of a noise.

Assessment of noise impacts is based on the proximity of a project to sensitive receptors and sources of noise. A sensitive receptor is defined as an area of frequent human use that would benefit from a lowered noise level. Typical sensitive receptors include residences, schools, churches, hospitals, and libraries.

The City of Sharonville has adopted a local ordinance to control noise in the community. Section 1315.12 of the city's building code prohibits the operation or use of any power-driven construction equipment, other apparatus, or tools that make loud or unusual noise between the hours of 10:00 p.m. and 7:00 a.m. within 400 feet of any residentially zoned property, except by written permission from the city.

3.4.3.1 Affected Environment

Detention Reservoir Project Area:

Noise-sensitive land uses in the project area for the detention reservoir include single-family residences located about 250 feet north of the embankment and proposed staging area on Bainbridge Drive and about 150 feet south and east of the embankment and proposed work area on Creek Road. Sharonville United Methodist Church is located about 600 feet west of the project area.

Culvert Replacement Project Area:

Noise-sensitive land uses in the project area for the culvert replacement include residences on Main Street that are immediately adjacent to the project area.

3.4.3.2 Alternative 1 - No Action

The No Action alternative would not change ambient noise levels in either project area. There would be no short- or long-term changes in noise levels.

3.4.3.3 Alternative 2 – Proposed Action

The Proposed Action would cause minor, short-term impacts from noise. Construction activities would temporarily increase ambient noise levels in both project areas. Sources of noise would include trucks hauling materials to and from the site, operation of construction equipment, and employee vehicles entering and exiting the construction sites. Construction hours would be restricted in compliance with local noise ordinances to reduce potential adverse impacts of construction-related noise.

Detention Reservoir Project Area:

Operation of the labyrinth weir at the detention reservoir would not generate a new source of noise, and the Proposed Action would not increase long-term noise levels in the project area.

Culvert Replacement Project Area:

Besides the general sources of noise from construction activities described above, short-term noise impacts in this project area would include pile driving activities for the placement of concrete bearing piles used for the bridge foundation. During construction, the use of pile driving equipment could result in moderate, short-term, adverse impacts due to the proximity to existing residential structures. Since roadway capacity would remain the same, the Proposed Action would not increase noise levels in the project area in the long term. The realignment of Main Street would move traffic noise away from the two residential properties located immediately east of the project area on Main Street.

3.4.3.4 Best Management Practices and Mitigation Measures

If the Proposed Action is the selected alternative, the subrecipient will minimize noise impacts by limiting construction activities to allowable construction noise hours consistent with the city's building code (Section 1315.12).

3.4.4 Public Services and Utilities

The City of Sharonville is served by municipal (city-run) police and fire departments and the Princeton City School District. Duke Energy provides electric and natural gas services to the project areas. GCWW provides water to the City of Sharonville. Hamilton County Storm Water District provides stormwater management to the city. The Metropolitan Sewer District of Greater Cincinnati provides wastewater collection and treatment to the city (City of Sharonville 2018b).

3.4.4.1 Affected Environment

No hospitals, police stations, fire stations, or municipal facilities are located within or adjacent to either project area.

Detention Reservoir Project Area:

An 18-inch sanitary sewer line runs under the embankment east to west at an invert elevation of 641.2 feet.

Culvert Replacement Project Area:

Existing utility infrastructure in the project area includes overhead powerlines, sanitary sewer, gas, and water lines. **Figure 24** depicts existing utility lines in the project area.

3.4.4.2 Alternative 1 – No Action

Detention Reservoir Project Area:

The sanitary sewer line would not be impacted under the No Action alternative since no construction activities would occur.

Culvert Replacement Project Area:

Under the No Action alternative, there would be no utility disruptions or relocations, but utility lines could be damaged or destroyed during a flood event. The potential for injury and loss of life in the event of a flood would remain.

3.4.4.3 Alternative 2 – Proposed Action

Detention Reservoir Project Area:

The Proposed Action would have no short- or long-term impact on the sanitary sewer line running under the embankment.

Culvert Replacement Project Area:

If the Proposed Action is implemented, the sanitary sewer and water main would be relocated as shown in **Figure 24**. During the relocation of the utilities, temporary service disruptions would be expected. Removal of the culverts and construction of the bridge could also necessitate the closure of the intersection at Main Street and East Sharon Road during the construction period. The road closure could affect police and fire response times near the project area.

Post-construction, there would be no long-term impact on public services and utilities from the Proposed Action. By removing downtown Sharonville from the 100-year floodplain, the Proposed Action would reduce the potential for damage to utility infrastructure and the potential for loss of life and injuries requiring emergency services during a flood event.

To relocate the sanitary sewer line, the subrecipient must obtain a Wastewater Permit-to-Install (PTI) under Ohio law (Ohio Rev. Code §§ 6111.44 and 6111.45 and OAC § 3745-42).

3.4.4.4 Best Management Practices and Mitigation Measures

If the Proposed Action is the selected alternative, then the following conditions would be implemented by the subrecipient to avoid, minimize, or mitigate potential impacts:

- To relocate the sanitary sewer line, the subrecipient will obtain a wastewater PTI under Ohio law (Ohio Rev. Code §§ 6111.44 and 6111.45).
- The subrecipient will develop a maintenance of traffic (MOT) plan and coordinate with the city's police and fire departments on detour routes and closures while the bridge is being constructed at Main Street.
- The subrecipient will coordinate with utility providers, including GCWW, Metropolitan Sewer District of Greater Cincinnati, and Duke Energy, to ensure residents and businesses are notified of any utility disruptions during the construction period.
3.4.5 Traffic and Circulation

Data on roads and transit services were obtained from the Ohio Department of Transportation (ODOT) and the Southwest Ohio Regional Transit Authority, which provides transit services in Hamilton County. Sidewalks were evaluated using aerial photography of the project areas.

3.4.5.1 Affected Environment

Detention Reservoir Project Area:

Access to the detention reservoir project area is provided from Creek Road via a short access drive that runs along the top of the dam embankment. Sidewalks are provided on the south side of Creek Road. The project area is not served by public transit as there are no transit stops in the project vicinity (Southwest Ohio Regional Transit Authority 2018).

Culvert Replacement Project Area:

U.S. 42 is a principal arterial roadway, which runs north-south through the city. Near the project area, U.S. 42 transitions from Reading Road to East Sharon Road and then to Main Street. U.S. 42 had an average annual daily traffic volume of 11,102 vehicles in 2018 (ODOT 2018). Residential streets and arterials located near the project area include Sharon Road, Sunshine Road, and Grandview Avenue. Sidewalks are provided on Reading Road, East Sharon Road, and the east side of Main Street. Sunshine Road and Grandview Avenue do not have sidewalks. The project area is not presently served by public transit as there are no transit stops or bus routes in the City of Sharonville.

3.4.5.2 Alternative 1 – No Action

Under the No Action alternative, no impact on traffic or circulation would occur in either project area because there would be no construction. Reading Road, Main Street, and Creek Road in the downtown area would remain in the floodplain and continue to be at risk of closure and damage during a 100-year or larger flood event. Closure of the roads could result in major impacts on traffic and circulation for the city and region. Since no new roadway capacity would be created, existing traffic levels would not change in the long term beyond background increases due to external factors such as population and employment growth in the region.

3.4.5.3 Alternative 2 – Proposed Action

If the Proposed Action is implemented, short-term construction impacts would be caused by vehicle traffic generated by work crews and construction vehicles. This increase in traffic would be temporary and would represent a negligible, short-term, localized impact on residents or people traveling in the vicinity of the project areas. Access to adjacent facilities, including residential properties, would be maintained during construction. In the long term, the Proposed Action would reduce the risk of traffic disruptions caused by flooding on Main Street, Reading Road, and Creek Road in the downtown area.

Detention Reservoir Project Area:

Construction activities at the detention reservoir would cause negligible temporary impacts on traffic. Construction vehicles would access the project area via Creek Road. No road closures or detours would be necessary. The Proposed Action would not impact pedestrian facilities.

Culvert Replacement Project Area:

Construction of the bridge could require the temporary closure of Main Street while the culvert is being removed and the bridge is constructed. The closure could extend up to 1 year. To mitigate the impact, a detour route would be necessary for those residents who live on Main Street and Wyscarver Road between East Sharon Road and Glendale Milford Road. A potential detour route approximately 2.5 miles long is presented in **Figure 25**. The Proposed Action would also temporarily disrupt sidewalk access at the Main Street and East Sharon Road intersection. The Proposed Action would replace the sidewalks along realigned Main Street as part of the project activities.

Construction access and staging would be provided via Reading Road. The proposed staging area would use an existing paved parking lot in a commercial area immediately south of the project site as shown in **Figure 13**. During construction, approximately 11 parking stalls would be occupied by construction equipment and materials.

In the long term, the Proposed Action would benefit the roadway system through the construction of the bridge and realignment of Main Street. The Proposed Action would not expand roadway capacity and would not cause long-term traffic impacts in the project area beyond background increases due to external factors such as population and employment growth in the region.

3.4.5.4 Best Management Practices and Mitigation Measures

If the Proposed Action is the selected alternative, then the following conditions would be implemented by the subrecipient to avoid, minimize, or mitigate potential impacts:

- The subrecipient will develop and implement an MOT plan for Reading Road, East Sharon Road, Main Street, Glendale Milford Road, Wyscarver Road, and Creek Road.
- The subrecipient will notify residences and businesses along the truck haul and detour routes before the start of construction activities.
- The subrecipient will coordinate with the city's police and fire departments in the development of the MOT plan to ensure that construction activities minimize impacts on emergency response times.

3.4.6 Environmental Justice (Executive Order 12898)

Environmental justice is defined by EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, 59 Fed. Reg. 7629 (Feb. 16, 1994) and CEQ

guidance (1997). Under EO 12898, demographic information is used to determine whether lowincome or minority populations are present in the areas potentially affected by the project. If so, a determination must be made whether implementation of the project may cause disproportionately high and adverse human health or environmental impacts on those populations. Alternatives are evaluated for their potential to cause disproportionately high and adverse human health or environmental impacts on low-income or minority populations.

CEQ (1997) defines persons living with an income below the poverty level as "low-income," according to the annual statistical poverty thresholds established by the U.S. Census Bureau. CEQ (1997) defines the term "minority" as persons from any of the following groups: Black, Asian or Pacific Islander, American Indian or Alaskan Native, and Hispanic. CEQ provides guidance to identify low-income and minority populations using census data at the block group or census tract level. CEQ considers a census block group to contain environmental justice populations only if at least one of the following criteria is met: Either at least 50 percent of the block group's population is low-income or minority, or the population has a "meaningfully greater" low-income or minority population when compared to larger geographies. For this analysis, demographic characteristics for the City of Sharonville and Hamilton County were compared to the block groups and census tract where the project areas are located.

3.4.6.1 Affected Environment

Low-income and minority populations were identified using the EJSCREEN web portal (EPA 2018a). EJSCREEN is a screening and mapping tool developed by EPA and is based on the American Community Survey (ACS) data developed by the U.S. Census Bureau.

Both project areas are located within a single census tract (ID# 39061023002) in the City of Sharonville.

According to the ACS, the total population of the census tract was 4,986 in 2016, and less than 6 percent of the census tract population was low-income. In comparison, the total population of Sharonville was 13,782 in 2016, and 11.4 percent of Sharonville's population was low-income. Additionally, the total population of Hamilton County was 785,649 in 2016, and 17.8 percent of the county's population was low-income. Therefore, the low-income population of the project census tract is neither above 50 percent nor meaningfully greater than the low-income populations in the City of Sharonville and Hamilton County. The population in the project area is not considered low-income using the CEQ definition. **Figure 26** illustrates the percentage of low-income population within the project areas and nearby census tracts.

Detention Reservoir Project Area:

The project area for the detention reservoir is located within a single census block group (ID# 390610230022) in the City of Sharonville. According to the ACS, the total population of the block group was 663 in 2015; 2.4 percent of the block group population was minority. The minority population in the City of Sharonville accounted for 24.9 percent of its total population, and the

minority population in Hamilton County accounted for 31.8 percent of its total population. As such, the minority population of the project block group is neither above 50 percent nor meaningfully greater than the reference community. The population in the project area is not considered minority using the CEQ definition.

Racial composition of the block group is summarized in Table 2.

Table 2: Racial Composition (Block Group ID# 390610230022)

Race	Population	Percent
White	647	97.6
Black	16	2.4
Asian	0	0.0
Other race	0	0.0
Two or more races	0	0.0
Native Hawaiian or other Pacific Islander	0	0.0
American Indian or Alaskan Native	0	0.0
Hispanic	0	0.0
Total	663	100.0

Source: U.S. Census Bureau 2016.

Figure 27 illustrates the percentage of minority population within the two project areas and nearby block groups.

Culvert Replacement Project Area:

The project area for the culvert replacement is located within a single census block group (ID# 390610230023) in the City of Sharonville. According to the ACS, the total population of the block group was 2,370 in 2016, and 27 percent of the block group population was minority. In comparison, 24.9 percent of Sharonville's population and 31.8 percent of the county's population were minority in 2016. As such, the minority population of the project block group is not meaningfully greater than the minority populations in the City of Sharonville and Hamilton County. Since the minority population of the project block group is neither above 50 percent nor meaningfully greater than the reference community, population in the project area is not considered minority using the CEQ definition. Racial composition of the block group is summarized in **Table 3**.

Table 3: Racial Composition (Block Group ID# 390610230023)

Race	Population	Percent
White	1,730	73.0
Black	303	12.8
Two or more races	247	10.4
Asian	90	3.8
Other race	0	0.0
Native Hawaiian or other Pacific Islander	0	0.0
American Indian or Alaskan Native	0	0.0
Hispanic	0	0.0
Total	2,370	100.0

Source: U.S. Census Bureau 2016.

A portion of the downtown area subject to flooding during a 100-year or larger flood event is in a small corner of block group ID# 390610230014. This block group also is not considered to contain a minority population.

3.4.6.2 Alternative 1 – No Action

The No Action alternative would not have disproportionately high and adverse effects on lowincome or minority populations because per CEQ definitions there are no low-income or minority populations in the project areas.

3.4.6.3 Alternative 2 – Proposed Action

The Proposed Action would not have a disproportionately high and adverse human health or environmental effect on low-income or minority populations because per CEQ definitions there are no low-income or minority populations in the project areas.

3.4.7 Safety and Security

EO 13045, Protection of Children from Environmental Health Risks and Safety Risks, directs federal agencies to identify and assess environmental health and safety risks that may disproportionately affect children to ensure their policies, programs, activities, and standards address those risks. The EO broadly defines environmental health and safety risks as products or substances that a child is likely to come in contact with or ingest through the air, soil, water, or food. EJSCREEN was used to identify the percentage of children who live in the project area based on the 2011–2015 ACS (EPA 2018a).

Safety risks in the project areas include flooding and the risk of failure of the detention reservoir during a flood. The detention reservoir is regulated by state laws related to the safety and operation of dams. The ODNR Division of Water Resources administers the state's dam safety program under Section 1521.06 of the Ohio Rev. Code.

3.4.7.1 Affected Environment

Detention Reservoir Project Area:

According to the ACS, the block group where the detention reservoir is located had a total population of 663 persons in 2015; 5 percent of the population was under the age of 5 (34 children), and about 19 percent of the population was under 18 (125 children). The project area itself is uninhabited.

Culvert Replacement Project Area:

According to the ACS, the block group where the project area is located had a total population of 2,370 persons in 2015; 3 percent of the population was under the age of 5 (76 children), and about 24 percent of the population was under 18 (578 children). Flooding poses a safety risk to populations in the downtown area because it is located in the 100-year floodplain. Populations in this area are also at risk due to dam failure since it is downstream of the detention reservoir. The subrecipient has developed an emergency action plan to mitigate the failure risk in accordance with state law (OAC § 1501:21-15-07).

3.4.7.2 Alternative 1 – No Action

There would be no change in flood risks at the detention reservoir or downstream of the detention reservoir, including downtown Sharonville.

3.4.7.3 Alternative 2 – Proposed Action

Standard construction-related safety risks would be present in both project areas in the short term. The construction contractor would adhere to safe work practices, and the construction sites would be secured each day to protect the public.

Construction of the labyrinth weir and bridge and stream bank restoration activities would reduce flood risks to populations in downtown Sharonville during a 100-year or larger flood event. Specifically, there would be a long-term economic benefit to the 58 properties that would be moved out of the 100-year floodplain, eliminating the need for flood insurance, and the risk of damage or destruction of the property because of flooding.

The minor risk of a dam failure would remain in the long term for populations downstream of the detention reservoir. The subrecipient would be required to update its emergency action plan in accordance with OAC § 1501:21-15-07 to account for the modified spillway and increased flood storage.

Detention Reservoir Project Area:

Construction of the labyrinth weir would increase the surface elevation of the pool during a 100year or larger flood event. Raising the base flood elevation would not exacerbate flooding of structures adjacent to the detention reservoir, and it would not increase flooding risks. Modifications to the embankment would require a dam construction permit, which would be issued by ODNR Division of Water Resources in accordance with state law (Ohio Rev. Code § 1521.06).

Culvert Replacement Project Area:

In the long term, public safety would benefit from the Proposed Action through a reduction in the size of the 100-year floodplain and base flood elevation in the project area and downtown Sharonville. The potential for injuries and loss of life during a 100-year or larger flood event would be reduced.

3.4.7.4 Best Management Practices and Mitigation Measures

If the Proposed Action is the selected alternative, then the following conditions would be implemented by the subrecipient to avoid, minimize, or mitigate potential impacts:

- The subrecipient will obtain a permit from the ODNR Division of Water Resources for the dam modifications in accordance with Section 1521.06 of the Ohio Rev. Code (ODNR 2018).
- The subrecipient will update its emergency action plan for the detention reservoir in accordance with OAC § 1501:21-15-07 (ODNR 2005).
- The construction sites will be secured from public access.
- All construction activities will be conducted in accordance with the standards specified in Occupational Safety and Health Administration (OSHA) regulations.

3.5 Historic and Cultural Resources

Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended (16 U.S.C. § 470f), requires that activities needing federal permits or using federal funds undergo a review process to consider historic properties that are listed in or may be eligible for listing in the NRHP. The State Historic Preservation Office (SHPO) is a federal agency's primary Section 106 partner. Alternatives are evaluated for their potential to impact cultural resources.

Cultural resources listed, eligible for listing, or potentially eligible for listing on the NRHP are subject to protection from adverse impacts resulting from an undertaking. To be considered eligible, a cultural resource must meet one or more of the criteria that would make that resource eligible for inclusion in the NRHP. Eligibility criteria for listing a property in the NRHP are detailed in 36 C.F.R. Part 60. Sites not yet evaluated may be considered potentially eligible for inclusion in the NRHP and are afforded the same regulatory consideration as nominated properties. The Ohio SHPO maintains the Ohio Historic Inventory (OHI).

Pursuant to 36 C.F.R. 800.4(a)(1), the Area of Potential Effects (APE) is defined as the geographic area(s) within which the undertaking may directly or indirectly affect cultural resources. Within the APE, impacts on cultural resources are evaluated for both historic structures (aboveground cultural resources) and archaeology (belowground cultural resources).

In addition to the NHPA, FEMA must also comply with other federal laws that relate to historic and cultural resources:

- American Indian Religious Freedom Act of 1978, 42 U.S.C. § 1996, which provides for the protection and preservation of American Indian sites, possessions, and ceremonial and traditional rites.
- Archaeological Resources Protection Act of 1979, 16 U.S.C. §§ 470aa–470 mm, which provides for the protection of archaeological resources on public lands and Indian lands.
- Native American Graves Protection and Repatriation Act, 25 U.S.C. §§ 3001–3013, in cases where Native American cultural Items are found on federal and tribal lands.

3.5.1 Affected Environment

To comply with the NHPA, OEMA initiated consultation with the Ohio SHPO in April 2018 on behalf of the subrecipient and in preparation for the project application (see correspondence in Appendix C). OEMA defined two APEs, one for each project area. OEMA conducted a database review for previously identified historic properties and archaeological sites within the APEs.

3.5.1.1 Detention Reservoir Project Area

OEMA did not identify any properties listed in, or eligible for listing in, the NRHP in the APE for the detention reservoir.

3.5.1.2 Culvert Replacement Project Area

OEMA did not identify any properties listed in, or eligible for listing in, the NRHP in the APE for the culvert replacement. Although the residential property to be acquired at 11005 Main Street was built in 1955 and is over 50 years old, it is not listed in the NRHP or included in the OHI. OEMA did note one historic property, Twelve Mile House, that is 50 feet north of the APE. This historic property is listed in both the OHI (HAM0031350) and NRHP (ID# 76001452). OEMA did not identify any historic properties or archeological sites within the APE.

3.5.2 Environmental Consequences

3.5.2.1 Alternative 1 – No Action

The No Action alternative would have no effect on historic structures or archeological resources in either project area because there would be no construction or ground-disturbing activities.

3.5.2.2 Alternative 2 – Proposed Action

OEMA determined that there are no architecturally or historically significant structures or archaeological sites in the APEs and the construction of the project would not affect any historic properties. On May 17, 2018, the Ohio SHPO concurred with the finding that the Proposed Action would have no effect on historic properties. In a March 7, 2019, letter to the Ohio SHPO, FEMA formally issued its finding of no historic properties affected, recognizing the Ohio SHPO's concurrence, and notifying SHPO of FEMA's intent to move forward with the undertaking. Agency correspondence is provided in Appendix C.

The Proposed Action would have no direct or indirect effects on historic structures or archaeological resources. The following project conditions would provide additional protection to archaeological sites:

- The subrecipient will monitor ground disturbance during the construction phase. Should human skeletal remains or historic or archaeological materials be discovered during construction, all ground-disturbing activities on the project site shall cease and the subrecipient will notify the coroner's office (in the case of human remains), FEMA, and the Ohio SHPO.
- The subrecipient's contractor is expected to use fill from a commercial source or regularly maintained stockpile. If this is not possible, the subrecipient will inform FEMA of the fill source so required agency consultations can be completed. FEMA approval will be required prior to beginning ground-disturbing activities. Failure to adhere to this condition may jeopardize funding.

3.5.3 Tribal Coordination and Religious Sites

EO 13175, Consultation and Coordination with Indian Tribal Governments, directs federal agencies, "to establish regular and meaningful consultation and collaboration with tribal officials in the development of federal policies that have tribal implications, to strengthen the United States government-to-government relationships with Indian tribes, and to reduce the imposition of unfunded mandates upon Indian tribes..."

Requests for evaluation of the presence or absence of known archaeological and Indian religious sites within the proposed project area were submitted to federally recognized tribal nations with potential interests in Hamilton County. On September 28, 2018, FEMA initiated consultation with the following tribal nations:

- Delaware Tribe of Indians, Duluth, Minnesota
- Osage Nation, Pawhuska, Oklahoma

FEMA sent a letter to each tribe with details about the project location and proposed activity and requested comments from each tribal government within 30 days of the date of the letter. FEMA received a response from the Osage Nation noting that FEMA had fulfilled its responsibilities under NHPA for tribal consultation and that the Osage Nation had no further concern about the project. The Osage Nation requested that if artifacts or human remains are discovered during project-related activities, construction activities should cease and the tribe be immediately notified. Correspondence is provided in Appendix C. FEMA did not receive a response from the Delaware Tribe of Indians regarding the Proposed Action.

3.5.3.1 Alternative 1 – No Action

The No Action alternative would have no effect on known archaeological or Indian religious sites as no construction or ground disturbance activities would occur.

3.5.3.2 Alternative 2 – Proposed Action

The Proposed Action would have no effect on known archaeological or Indian religious sites. If any human or archaeological remains are encountered during project construction, work will stop immediately and FEMA and SHPO will be notified. FEMA will then notify the Osage Nation Historic Preservation Office.

3.6 Comparison of Alternatives

Table 4 summarizes the potential impacts of each alternative on the resource areas discussed inSection 3.

Affected Environment	No Action Impacts	Proposed Action Impacts	Mitigation
Geology, Soils, and Topography	 No impact on geology. No direct impacts on soils as no construction would occur. Detention Reservoir Project Area: No change in the ability of the dam to retain floodwaters and no change in the downstream flows or velocities. Existing scour that may occur downstream of the dam during flood events would continue to occur. Sediments would continue to be removed from the tributary downstream of the dam and deposited downstream in areas where channel conditions result in deposition. 	 No impact on geology. Detention Reservoir Project Area: Minor, short-term construction impacts from earth-disturbing activities. Long-term, negligible impacts on soils and topography. Culvert Replacement Project Area: Temporary construction impacts from excavation of the existing culvert, widening of the channel, and stabilization of the stream banks. Minor, long-term benefits by reducing the risk of erosion during flood events along the stream banks. Stream channel would be widened, reducing erosive forces of all flow levels. 	 All removed material will be disposed of off- site according to OEPA's Non- hazardous Waste Rules and Laws (OAC Chapter 3745). Erosion and sedimentation BMPs, such as silt fences and native vegetation, will be used to reduce impacts on soils.

Table 4: Summary of Environmental Impacts

Affected Environment	No Action Impacts	Proposed Action Impacts	Mitigation
	 Culvert Replacement Project Area: No change in the culvert sizing or configuration that would continue to create conditions that result in the deposition of sediments in the stream channel. Continued deposition would maintain the elevated flood risk in the downtown area. Flooding that extends beyond the stream channel would have the potential to cause soil erosion and change soil properties in the project area vicinity, which could affect the soil's ability to support plant growth. 	 Stream bank would be restored and stabilized with native plants to prevent erosion and sedimentation into the tributary. 	
Water Resources and Water Quality	 No impact on groundwater resources and no withdrawal of groundwater. Detention Reservoir Project Area: Floodwaters would continue to spread throughout the downtown area of Sharonville, resulting in the potential for contaminants from flooded properties to be released into surface waters. Culvert Replacement Project Area: Continued risk of contamination from materials released from flooded properties and sedimentation due to the constricted culvert. 	 No impact on groundwater resources and no withdrawal of groundwater. Long-term benefits on surface water resources and water quality in the tributary. Reduced risk of 100-year flood in downtown Sharonville. Reduced risk of contamination into the tributary because of floodwaters. Detention Reservoir Project Area: Negligible, short-term construction impacts on water resources and quality. No impact to the tributary below the OHWM. 	 The subrecipient will obtain permits for work within waters of the U.S. in accordance with Sections 401 and 404 of the CWA. The subrecipient will develop a stormwater pollution prevention plan for earth- disturbing activities in accordance with the OEPA NPDES permit (OEPA Permit No. OHC000005). Materials used for fill or bank protection will consist of suitable material free

Affected Environment	No Action Impacts	Proposed Action Impacts	Mitigation
	 Tributary banks would continue to be degraded from the use of concrete rubble and degraded riparian vegetation that do not provide natural filtering of stormwater runoff. 	 Increased flood storage capacity and pool surface elevation of the detention reservoir. Slowed discharge rate of water from the reservoir into the tributary during flood events. Potential for sedimentation downstream during floods would be reduced. Culvert Replacement Project Area: Short-term construction 	 from toxic contaminants in other than trace quantities. Excavated materials will be disposed of in upland areas away from waters of the state.
		 Short-term construction impacts from activities that would be conducted in the stream channel to remove the culvert, stabilize and reshape the stream banks, and construct the bridge. Impacts to the tributary below the OHWM would increase the risk of erosion in the short term during the construction period. Minor, long-term benefits on water quality by daylighting approximately 273 linear feet of stream. Restoration of stream and riparian functions along the stream channel. Restored riparian vegetation would slow the rate of runoff, which would reduce soil erosion and filter stormwater, providing water quality benefits. Shading from restored eingeing woorstation 	

Affected Environment	No Action Impacts	Proposed Action Impacts	Mitigation
		would moderate water temperatures.	
Floodplain Management	 No change in the existing floodplain conditions in either project area. Fifty-eight properties in the downtown area would remain at risk of flooding during a 100-year or larger event. 	 Moderate beneficial effects on the tributary by reducing the size of the 100-year floodplain. Reduction in the base flood elevation of the 100-year flood event at Main Street. Fifty-eight properties in the downtown area removed from the existing 100-year floodplain. Detention Reservoir Project Area: Short-term impacts from the placement of fill material in the floodplain. Increase in the base flood elevation upstream, resulting in an expansion of the detention reservoir area. Increased flood storage at the detention reservoir would reduce flooding downstream. Size of the upstream floodplain would increase, and new floodplain would provide natural functions such as habitat and stormwater filtration. Culvert Replacement Project Area: Short-term impacts on the floodplain from ground disturbance that could result in erosion and sedimentation. Construction of the bridge and stabilization 	 Subrecipient must obtain a CLOMR from FEMA before the city can issue permits for the work. Subrecipient must obtain a final LOMR from FEMA. Subrecipient will obtain a floodplain development permit for construction in the 100-year floodplain (Codified Ordinances of Sharonville Chapter 1321.04).

Affected Environment	No Action Impacts	Proposed Action Impacts	Mitigation
		 and reshaping of the channel would temporarily remove vegetation that provides habitat and stormwater filtration benefits. Minor, long-term benefits on the tributary's floodplain from restoration of the stream, riparian area, and green open space adjacent to the stream. Restoration would improve the natural and beneficial values of the tributary's floodplain. 	
Air Quality	 No short- or long-term impacts on air quality in either project area because there would be no change in existing emissions levels or patterns. 	 Short-term impacts from the use of construction equipment with diesel and gasoline engines in both project areas. Emissions from construction equipment would result in negligible temporary increases in the levels of some pollutants. During construction, exposed soil could temporarily increase airborne particulate matter in both project areas. No long-term air quality emissions or sources of new emissions in either project area. No air quality permit would be required for any project-related activities. 	 To reduce the emission of criteria pollutants, construction equipment engine idling will be minimized to the extent practicable and engines will be kept properly maintained. Open construction areas will be minimized and watered as needed to minimize particulates such as fugitive dust.
Terrestrial and Aquatic	Detention Reservoir Project Area:	Detention Reservoir Project Area:	• None.
Environment	 No direct impact on terrestrial and aquatic habitats because there would be no construction and the 	 No short-term construction impacts because the project area contains limited biodiversity. 	

Affected Environment	No Action Impacts	Proposed Action Impacts	Mitigation
Wetlands	 project area does not generally support terrestrial or aquatic life. Spread of invasive species is unlikely because it would not create disturbances that promote invasive species. <i>Culvert Replacement Project</i> <i>Area:</i> No direct impact on terrestrial and aquatic habitats because there would be no construction. Stream channel functions and values would continue to be degraded by the culvert restriction. Repetitive flooding in the area would continue to impact terrestrial and aquatic habitat through erosion and potential loss of trees and vegetation. Erosion would disturb soils and existing vegetation, resulting in the spread of invasive species. Water quality impacts from contaminants released from structures damaged by flooding. 	 Pool elevation in the detention reservoir would be higher and result in flooding further into the forested habitats surrounding the reservoir during 100-year or larger flood events. Spread of invasive species is unlikely because the Proposed Action would not create disturbances that promote invasive species. Culvert Replacement Project Area: Terrestrial and aquatic habitat would experience short-term construction impacts from removal of the culvert, removal of the culvert, removal of vegetation on the stream bank, and bridge construction. Long-term benefit from restoration of riparian habitat and adjacent green open space. Long-term benefit to aquatic habitat by returning the stream to a more natural channel shape and morphology, reducing the magnitude of physical forces working on the river bed. No impact on wetlands 	• None.
	 No impact on wetlands in either project area because no wetlands are present. 	 No impact on wetlands in either project area because no wetlands are present. 	• None.
Threatened and Endangered Species	 No direct effect on state or federally listed threatened or endangered species 	 No effect on the Indiana bat and northern long- eared bat if the proposed tree removal 	 Tree removal will not be permitted between April 15 and September

Affected Environment	No Action Impacts	Proposed Action Impacts	Mitigation
	 because there would be no construction. Flood events that disturb forested riparian areas could create openings that would adversely affect running buffalo clover if it is present along the creek. 	 conforms to seasonal restrictions. No effect on the fanshell, pink mucket pearly mussel, rayed bean, and sheepnose mussel because no habitat is present. Proposed Action may affect, but is not likely to adversely affect, running buffalo clover with the implementation of BMPs. 	 30 to avoid effects on the Indiana bat and northern long- eared bat. To avoid impacts on running buffalo clover, the following measures will be implemented: Trees will be removed selectively to retain a dappled shade environment. Invasive plant species will be controlled through manual pulling or selective herbicide application on cut stems. No foliar herbicide application will occur within 25 feet of running buffalo clover sites. Burning will be avoided. Soil disturbance will be minimized
Migratory Birds	 No effect on bald eagles as no nests are present. Detention Reservoir Project Area: No direct impact on migratory birds because there would be no construction and the project area does not generally support migratory bird habitat. 	 No effect on bald eagles as no nests are present. Detention Reservoir Project Area: Short-term construction impacts are unlikely because no trees or vegetation would be removed. Impact to migratory bird species unlikely in the 	 Tree removal will be avoided during the breeding bird season from April 15 to September 30.

Affected Environment	No Action Impacts	Proposed Action Impacts	Mitigation
	 Culvert Replacement Project Area: No direct impact on migratory birds because there would be no construction. One-hundred-year flood event or larger could cause a loss of vegetation and trees, impacting forest and riparian areas, which may provide habitat for migratory birds. 	 project area does not generally support migratory bird habitat. <i>Culvert Replacement Project</i> <i>Area:</i> Minor, short-term impacts on migratory birds from the removal of vegetation in the project area during construction. Removal of the culvert and restoration of aquatic and terrestrial habitat along the stream channel would benefit migratory bird habitat in the long term. 	
Hazardous Materials	 No impact from the use of construction equipment or from the exposure of contaminated materials through ground-disturbing activities. Contaminated materials in the floodplain could be disturbed during a flood event if facilities containing hazardous materials are damaged or if ground is eroded, exposing previously unidentified hazardous materials. 	 Minor, short-term impacts from the use of construction equipment in both project areas and the potential for leaks of oils, fuels, and lubricants. Potential exposure of previously unknown contaminated materials because of excavation and removal of soil and construction debris. None of the identified facilities are likely to be affected by the Proposed Action because of their distance from proposed activities. No long-term impacts in either project area because the Proposed Action would not add any hazardous facilities, operations, or chemicals to the project areas or increase the risk of hazardous materials- 	 Construction equipment will be kept in good working order. Any equipment to be used over, in, or within 100 feet of water will be inspected daily for fuel and fluid leaks. Any leaks will be promptly contained and cleaned up, and the equipment will be repaired. Any hazardous or contaminated materials discovered, generated, or used during project implementation will be disposed of and handled by the subrecipient in accordance with applicable federal, state,

Affected Environment	No Action Impacts	Proposed Action Impacts	Mitigation
		related impacts on the environment.	and local regulations.
Zoning and Land Use	 Detention Reservoir Project Area: No impact on existing zoning nor would there be any change to existing land uses. Culvert Replacement Project Area: No impact on existing zoning nor would there be any short-term changes to existing land uses. Unmitigated flood risks would continue to impact residential and commercial land uses in the downtown area over the long term. Not consistent with the Master Plan. 	 Detention Reservoir Project Area: No impact on current land uses and zoning since the area would continue to function as a detention reservoir. No changes to the existing zoning would be necessary, and modification of the embankment and detention reservoir would not conflict with current land use plans. Culvert Replacement Project Area: No impact on existing land uses nor would any zoning changes be necessary. City would acquire and demolish the residential property at 11005 Main Street through a purchase agreement with a willing seller. Land use would change from residential to transportation and open space uses. Consistent with the Master Plan 	 The subrecipient will acquire property in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and the FEMA Hazard Mitigation Assistance Guidance Addendum. Reimbursement benefits will include just compensation at fair market value for displaced property owners. Affected owners will be eligible to receive residential relocation assistance.
Visual Resources	Detention Reservoir Project Area:	Detention Reservoir Project Area:	• None.
	 Spillway would not be modified, and there would be no changes to visual resources in the project area. Culvert Replacement Project Area: 	 Short-term impacts on visual resources from construction equipment, excavation, and staging areas. Proposed spillway modifications would not substantially alter the physical appearance of the reservoir or 	

Affected Environment	No Action Impacts	Proposed Action Impacts	Mitigation
	 No changes to visual resources in the project area. Unmitigated floods could damage properties, roads, sidewalks, and overhead powerlines and reduce the visual quality of the area until restoration occurs and debris is removed. 	 adversely affect visual resources in the long term. Culvert Replacement Project Area: Short-term impacts from construction equipment, excavation, tree removal, and equipment and material staging. Temporary impact to the visual environment for nearby residents and people using the adjacent roads. Long-term benefit from the restoration of the stream and riparian area and creation of green space. 	
Noise	 No change to ambient noise levels in either project area. No short- or long-term changes in noise levels. 	 Minor, short-term impacts from construction activities, including trucks hauling materials to and from the site, operation of construction equipment, and employee vehicles entering and exiting the construction sites. Detention Reservoir Project Area: Operation of the labyrinth weir at the detention reservoir would not generate a new source of noise. No long-term increase in noise levels. Culvert Replacement Project Area: Moderate, short-term adverse impact to residences from pile driving activities for the placement of concrete- bearing piles. 	 Subrecipient will minimize noise impacts by limiting construction activities to allowable construction noise hours consistent with the city's building code (Section 1315.12).

Affected Environment	No Action Impacts	Proposed Action Impacts	Mitigation
		 No increase in noise levels to nearby residences from the realignment of Main Street. 	
Public Service and Utilities	 Detention Reservoir Project Area: No impact to the sanitary sewer line as no construction activities would occur. Culvert Replacement Project Area: No utility disruptions or relocations. Utility lines could be damaged or destroyed during a flood event. Potential for injury and loss of life in the event of a flood would remain. 	 Detention Reservoir Project Area: No short- or long-term impact on the sanitary sewer line running under the embankment. Culvert Replacement Project Area: Sanitary sewer and water main would be relocated. During the relocation of the utilities; temporary service disruptions would be expected. Removal of the culverts and construction of the bridge would also necessitate closure of the intersection at Main Street and East Sharon Road during the construction period. Temporary road closure could affect police and fire response times in the immediate vicinity of the project area. No long-term impact on public services and utilities. Reduction in the potential for damage to utility infrastructure and the potential for loss of life and injuries requiring emergency services during a flood event. 	 To relocate the sanitary sewer line, the subrecipient will obtain a wastewater PTI. The subrecipient will develop a MOT plan and coordinate with the city's police and fire departments on detour routes and closures while the bridge is being constructed at Main Street. The subrecipient will coordinate with utility providers, including GCWW, Metropolitan Sewer District of Greater Cincinnati, and Duke Energy, to ensure residents and businesses are notified of any utility disruptions during the construction period.
Traffic and Circulation	 No impact on traffic or circulation in either project area because 	 Short-term construction impacts caused by vehicle traffic generated 	 The subrecipient will develop and implement a MOT plan for Reading

Affected Environment	No Action Impacts	Proposed Action Impacts	Mitigation
	 there would be no construction. Reading Road, Main Street, and Creek Road in the downtown area would remain in the floodplain and continue to be at risk of closure and damage during a 100-year or larger flood event. Closure of roads because of flooding could result in major impacts on traffic and circulation for the city and region. Since no new roadway capacity would be created, existing traffic levels would not change in the long term. 	 by work crews and construction vehicles. Increase in traffic would be temporary and would represent a negligible, short-term, localized impact on residents or people traveling in the vicinity of the project areas. Access to adjacent facilities, including residential properties, would be maintained during construction. Long-term reduction in risk of traffic disruptions caused by flooding on Main Street, Reading Road, and Creek Road in the downtown area. Detention Reservoir Project Area: Construction activities would access the project area via Creek Road. No road closures or detours would be necessary. No impact to pedestrian facilities. Culvert Replacement Project Area: Construction of the bridge would require the temporary closure of the intersection of Main Street with Sharon Road. The closure could extend up to 1 year. A detour route would be necessary for those residents who live on Main Street and 	 Road, East Sharon Road, Main Street, Glendale Milford Road, Wyscarver Road, and Creek Road. The subrecipient will coordinate with the city's police and fire departments in the development of the MOT plan to ensure that construction activities minimize impacts on emergency response times. The subrecipient will notify residences and businesses along the truck haul and detour routes prior to the start of construction activities.

Affected Environment	No Action Impacts	Proposed Action Impacts	Mitigation
		 Wyscarver Road between East Sharon Road and Glendale Milford Road. Temporary disruption to sidewalk access at the Main Street and East Sharon Road intersection during the construction period. 	
Environmental Justice	 No disproportionately high and adverse effects on low-income or minority populations. 	 No disproportionately high and adverse effects on low-income or minority populations. 	• None.
Safety and Security	 No change in flood risks at the detention reservoir or downstream of the detention reservoir, including downtown Sharonville. Flood risk at Sharonville Elementary School would remain unchanged. 	 Standard construction-related safety risks would be present in both project areas in the short term. Construction of the labyrinth weir and bridge and stream bank restoration activities would reduce flood risks to populations in downtown Sharonville during a 100-year or larger flood event. Minor risk of a dam failure would remain in the long term for populations downstream of the detention reservoir. Detention Reservoir Project Area: Construction of the pool during a 100-year or larger flood event. Raising the base flood elevation would not exacerbate flooding of structures adjacent to the detention reservoir, 	 The subrecipient will obtain a permit from the ODNR Division of Water Resources for the dam modifications in accordance with Section 1521.06 of the Ohio Rev. Code. The subrecipient will update its emergency action plan for the detention reservoir in accordance with OAC § 1501:21-15-07. The construction sites will be secured from public access. All construction activities will be conducted in accordance with the standards specified in OSHA regulations.

Affected Environment	No Action Impacts	Proposed Action Impacts	Mitigation
		 and it would not increase flooding risks. <i>Culvert Replacement Project</i> <i>Area:</i> Long-term public safety benefit from a reduction in the size of the 100- year floodplain and base flood elevation in the project area and downtown Sharonville. Potential for injuries and loss of life during a 100- year or larger flood event would be reduced. 	
Historic and Cultural Resources	 No effect on historic structures or archeological resources in either project area because there would be no construction or ground-disturbing activities. 	 No direct or indirect effects on historic structures or archaeological resources. No architecturally or historically significant structures in the APEs, and construction of the project would not affect any historically significant structures. 	 The subrecipient will monitor ground disturbance during the construction phase. Should human skeletal remains or historic or archaeological materials be discovered during construction, all ground-disturbing activities on the project site shall cease and the subrecipient will notify the coroner's office (in the case of human remains), FEMA, and the Ohio SHPO. The subrecipient's contractor is expected to use fill from a commercial source or regularly maintained stockpile. If this is not possible, the subrecipient will inform FEMA of

Affected Environment	No Action Impacts	Proposed Action Impacts	Mitigation
			the fill source so required agency consultations can be completed. FEMA approval will be required prior to beginning ground-disturbing activities. Failure to adhere to this condition may jeopardize funding.
Tribal and Religious Sites	 No effect on known archaeological or Indian religious sites as no construction or ground disturbance activities would occur. 	 No effect on known archaeological or Indian religious sites. 	 If any human or archaeological remains are encountered during the project, work will stop immediately and FEMA, SHPO, and the Osage Nation Historic Preservation Office will be notified.

4 CUMULATIVE IMPACTS

This section addresses the potential cumulative impacts associated with the implementation of the Proposed Action. Cumulative impacts are defined in CEQ regulations for implementing NEPA (40 C.F.R. § 1508.7) as:

"the impacts of a proposed action when combined with impacts of past, present, or reasonably foreseeable future actions undertaken by any agency or person."

CEQ regulations require an assessment of cumulative effects during the decision-making process for federal projects. Cumulative impacts can result from individually minor but collectively significant actions.

Besides the Proposed Action, the subrecipient did not identify any other development activities within the project areas or vicinity. In the course of the land use evaluation, a land use and development plan, the Master Plan, was identified for the downtown area of Sharonville (City of Sharonville 2010). Although no specific funding or development proposals have been identified by the subrecipient, the action is reasonably foreseeable. For the purpose of the cumulative impacts analysis, the project area was expanded to include the downtown area of Sharonville

where the 100-year mapped floodplain extends. The Master Plan defines the approximate boundary of the downtown area to be Sharon Creek to the west, Main Street to the east, Sharon Road to the south, and Cornell Road to the north.

Existing land uses in the downtown area include a diverse mix of public, residential, retail, office, and institutional uses as shown in **Figure 28**. Single family residential neighborhoods dominate the landscape to the east of downtown, and railroad and industrial uses dominate land use west of downtown.

The Master Plan establishes a vision, goals, and planning themes to "establish downtown as a destination" as shown in **Figure 29**. The Master Plan includes:

- Creation of a unique downtown experience that offers a critical mass of retail activity, development of high-quality urban amenities, and creation of downtown gateways and corridors.
- Development of a walkable and functional downtown through the encouragement of pedestrian friendly development, implementation of traffic-calming measures, and improvements to access and circulation.
- Development of an indigenous market for the downtown with a goal of increasing downtown's daytime population, residential density, and development of a marketing strategy for the downtown area.
- A potential future train station that would be a stop on an intercity passenger rail line between Columbus, Dayton, and Cincinnati.

The Master Plan envisions the project area where the bridge would be constructed as one location that could serve as a gateway to downtown. The Master Plan recognizes that a substantial portion of the downtown area proposed for redevelopment is limited by its location in a 100-year floodplain. Implementation of the Proposed Action would move 58 properties out of the floodplain, encouraging future development and implementation of the Master Plan.

Most of the potential impacts of the Proposed Action are construction-related (e.g., noise, air quality, public services). Because the potential for future development under the Master Plan would occur much later in time after the Proposed Action was implemented, there would not be any cumulative construction-related impacts. The long-term effects of the Proposed Action would be beneficial effects of a reduced flood risk and improved riparian and stream health and water quality. Implementation of the Master Plan vision for increased development of the downtown core could offset some of those benefits through increased impervious surfaces and stormwater runoff, but the effect would be negligible because the downtown core is already largely impervious surfaces. The Proposed Action would not result in increased capacity in the transportation network or change the existing zoning; therefore, there would not be cumulative effects with Master Plan implementation.

5 PUBLIC PARTICIPATION

This EA is available for agency and public review and comment for a period of 30 days. The public information process includes a public notice with information about the Proposed Action in the Cincinnati Enquirer. This EA is available on FEMA's website at https://www.fema.gov/recent-environmental-documents-public-notices-region-v. The EA is also available on the City of Sharonville website at www.sharonville.org.

A hard copy of this EA is available for review at:

Sharonville City Hall 10900 Reading Road Sharonville, OH 45241

This EA reflects the evaluation and assessment of the federal government, the decision maker for the federal action; however, FEMA will take into consideration any substantive comments received during the public review period to inform the final decision regarding grant approval and project implementation. The public is invited to submit written comments by emailing duane.castaldi@fema.dhs.gov or via mail to:

Duane Castaldi, Regional Environmental Officer Attn: City of Sharonville EA Comments FEMA Region V 536 South Clark Street, 6th Floor Chicago, IL 60605

If FEMA receives no substantive comments from the public and/or agency reviewers, this EA will be adopted as final, and FEMA will issue a FONSI. If FEMA receives substantive comments, it will evaluate and address those comments as part of the FONSI documentation and may consider whether changes to the grant or project implementation are appropriate.

5.1 Initial Public Notice

In preparation for the draft EA, an initial public notice was published in the Cincinnati Enquirer (Cincinnati.com) on April 18, 2018. A copy of the notice is provided in Appendix E.

6 MITIGATION MEASURES AND PERMITS

6.1 Permits

The City of Sharonville may need to obtain the permits summarized in Table 5.

Table 5: Permit Summary

Issuing Agency	Resource	Title	Applicable Regulation/Law	Status
USACE	Waters of the U.S./Wetlands	404 Permit	CWA	Not Started
FEMA	Floodplains	Letter of Map Revision	National Flood Insurance Act	Not Started
FEMA	Floodplains	Conditional Letter of Map Revision	National Flood Insurance Act	Not Started
City of Sharonville, OH	Floodplains	Floodplain Development Permit	Codified Ordinances of Sharonville Chapter 1321.04	Not Started
ODNR	Dam Safety and Modifications	Dam Construction Permit	Ohio Rev. Code 1521.06	Not Started
ΟΕΡΑ	Water Quality	Section 401 Water Quality Certification	CWA	Not Started
ΟΕΡΑ	Stormwater	General Permit Authorization for Stormwater Discharges associated with construction activity under the NPDES (OEPA Permit No. OHC000005)	CWA	Not Started
ΟΕΡΑ	Sewer Utilities	Wastewater PTI	Ohio Rev. Code 6111.44 and 6111.45; Ohio Administrative Code 3745-42	Not Started

6.2 **Project Conditions**

The subrecipient is responsible for compliance with federal, state, and local laws and regulations, including obtaining any necessary permits prior to beginning construction activities, and adhering to any conditions laid out in these permits. Any substantive change to the scope of work will require re-evaluation by FEMA for compliance with NEPA and any other laws or EOs.

The subrecipient must adhere to the following conditions should the Proposed Action be implemented. Failure to comply with FEMA grant conditions may jeopardize federal funding. FEMA requires the following standard conditions for the Proposed Action:

- The subrecipient is responsible for obtaining and complying with all required local, state, and federal permits and approvals.
- If deviations from the proposed scope of work result in substantial design changes, the need for additional ground disturbance, additional removal of vegetation, or any other unanticipated changes to the physical environment, the subrecipient must contact FEMA

so that the revised project scope can be evaluated for compliance with NEPA and other applicable environmental laws.

Soils

- All removed material will be disposed of off-site according to OEPA's Non-hazardous Waste Rules and Laws (OAC Chapter 3745).
- Erosion and sedimentation BMPs, such as silt fences and native vegetation, will be used to reduce impacts on soils.

Water Resources and Water Quality

- The subrecipient will obtain a permit for impacts on waters of the U.S. in accordance with Sections 401 and 404 of the CWA.
- The subrecipient will develop a stormwater pollution prevention plan for earthdisturbing activities in accordance with the OEPA NPDES permit (OEPA Permit No. OHC000005).
- Materials used for fill or bank protection will consist of suitable material free from toxic contaminants in other than trace quantities.
- Excavated materials will be disposed of in upland areas away from waters of the state.

Floodplain Management

- The subrecipient will obtain a CLOMR from FEMA before the city can issue permits for the work.
- The subrecipient will obtain a final LOMR and supply FEMA with as-built data to revise the FIRMs for both project areas.
- The subrecipient will obtain a floodplain development permit for construction in the 100year floodplain (Codified Ordinances of Sharonville Chapter 1321.04).

Air Quality

- To reduce the emission of criteria pollutants, construction equipment engine idling will be minimized to the extent practicable and engines will be kept properly maintained.
- Open construction areas will be minimized and watered as needed to minimize particulates such as fugitive dust.

Threatened and Endangered Species

- Tree removal will not be permitted between April 15 and September 30 to avoid effects on the Indiana bat and northern long-eared bat.
- To avoid impacts on running buffalo clover, the following measures will be implemented:
 - Trees will be removed selectively to retain a dappled shade environment.
 - Invasive plant species will be controlled through manual pulling or selective herbicide application on cut stems.

- No foliar herbicide application will occur within 25 feet of running buffalo clover sites.
- Burning will be avoided.
- Soil disturbance will be minimized.

Migratory Birds

• Tree removal will be avoided during the breeding bird season from April 15 to September 30.

Hazardous Materials

- Construction equipment will be kept in good working order.
- Any equipment to be used over, in, or within 100 feet of water will be inspected daily for fuel and fluid leaks. Any leaks will be promptly contained and cleaned up, and the equipment will be repaired.
- Any hazardous or contaminated materials discovered, generated, or used during project implementation will be disposed of and handled by the subrecipient in accordance with applicable federal, state, and local regulations.

Zoning and Land Use

- The subrecipient will acquire property in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (42 U.S.C. § 4601 et seq.) and implementing regulations 49 C.F.R. Part 24 as well as policy guidance provided by FEMA in the *Hazard Mitigation Assistance Guidance Addendum* (FEMA 2015).
- Reimbursement benefits will include just compensation at fair market value for the displaced property.
- The affected owners will be eligible to receive residential relocation assistance.

Noise

• The subrecipient will minimize noise impacts by limiting construction activities to allowable construction noise hours consistent with the city's building code (Section 1315.12).

Public Services and Utilities

- To relocate the sanitary sewer line, the subrecipient will obtain a wastewater PTI under Ohio law (Ohio Rev. Code §§ 6111.44 and 6111.45).
- The subrecipient will develop an MOT plan and coordinate with the city's police and fire departments on detour routes and closures while the bridge is being constructed at Main Street.
- The subrecipient will coordinate with utility providers, including GCWW, Metropolitan Sewer District of Greater Cincinnati, and Duke Energy, to ensure residents and businesses are notified of any utility disruptions during the construction period.

Traffic and Circulation

- The subrecipient will develop and implement an MOT plan for Reading Road, East Sharon Road, Main Street, Glendale Milford Road, Wyscarver Road, and Creek Road.
- The subrecipient will notify residences and businesses along the truck haul and detour routes prior to the start of construction activities.
- The subrecipient will coordinate with the city's police and fire departments in the development of the MOT plan to ensure that construction activities minimize impacts on emergency response times.

Safety and Security

- The subrecipient will obtain a permit from the ODNR Division of Water Resources for the dam modifications in accordance with Section 1521.06 of the Ohio Rev. Code.
- The subrecipient will update its emergency action plan for the detention reservoir in accordance with OAC § 1501:21-15-07.
- The construction sites will be secured from public access.
- All construction activities will be conducted in accordance with the standards specified in OSHA regulations.

Historic and Cultural Resources

- The subrecipient will monitor ground disturbance during the construction phase. Should human skeletal remains or historic or archaeological materials be discovered during construction, all ground-disturbing activities on the project site shall cease and the subrecipient will notify the coroner's office (in the case of human remains), FEMA, and the Ohio SHPO.
- The subrecipient's contractor is expected to use fill from a commercial source or regularly maintained stockpile. If this is not possible, the subrecipient will inform FEMA of the fill source so required agency consultations can be completed. FEMA approval will be required prior to beginning ground-disturbing activities. Failure to adhere to this condition may jeopardize funding.

Tribal and Religious Sites

• If any human or archaeological remains are encountered during project construction, work will stop immediately and FEMA and SHPO will be notified. FEMA will then notify the Osage Nation Historic Preservation Office.

7 CONSULTATIONS AND REFERENCES

The following agencies were consulted during the preparation of this EA:

Federal, State, and Local Agencies

City of Sharonville

Federal Emergency Management Agency Ohio Department of Natural Resources Ohio Department of Transportation Ohio Emergency Management Agency Ohio Environmental Protection Agency Ohio State Historic Preservation Office U.S. Army Corps of Engineers U.S. Fish and Wildlife Services **Tribal Agencies** Delaware Tribe Historic Preservation Office Osage Nation Historic Preservation Office

7.1 References

City of Sharonville. 2018a. Code of Ordinances. August 20. Accessed December 12, 2018.

Available at:

http://whdrane.conwaygreene.com/NXT/gateway.dll?f=templates&fn=default.htm&vid= whdrane:OHSharonville.

- _____. 2018b. "Utilities." Accessed December 12, 2018. Available at: https://www.sharonville.org/371/Utilities.
 - _____. 2017. *Sharon Creek Tributary Hydrologic and Hydraulic Analysis*. Prepared by Stantec Consulting Service Inc.

____. 2016. Zoning Map. Accessed December 12, 2018. Available at: https://www.sharonville.org/455/Zoning-Map.

_. 2010. Downtown Strategic Master Plan – Draft. Cincinnati, Ohio: City of Sharonville. Accessed December 12, 2018. Available at: https://www.sharonville.org/DocumentCenter/View/304/Sharonville-Downtown-Strategic-Master-Plan?bidId=.

- Council on Environmental Quality (CEQ). 1997. Environmental Justice Guidance Under the National Environmental Policy Act. Available at: https://www.epa.gov/sites/production/files/2015-02/documents/ej_guidance_nepa_ceq1297.pdf.
- Federal Emergency Management Agency (FEMA). 2018. FEMA Flood Map Service Center. Accessed January 2019. Available at: https://msc.fema.gov/portal/home.

- 2015. Hazard Mitigation Assistance Guidance Addendum, Accessed February 4, 2019.
 Available at: https://www.fema.gov/media-library-data/1424983165449 38f5dfc69c0bd4ea8a161e8bb7b79553/HMA_Addendum_022715_508.pdf.
- Federal Highway Administration (FHWA). 2001. River Engineering for Highway Encroachments. Accessed February 15, 2019. Available at: https://www.fhwa.dot.gov/engineering/hydraulics/pubs/nhi01004.pdf.
- _____. 2002 Hydraulic Design Series No. 2, Second Edition: Highway Hydrology. Hazard Mitigation Assistance Guidance Addendum, Accessed February 15, 2019. Available at: https://www.fhwa.dot.gov/engineering/hydraulics/pubs/hif02001.pdf.
- Greater Cincinnati Water Works (GCWW). 2018. "Greater Cincinnati Water Works", accessed December 5, 2018. Available at: https://www.cincinnati-oh.gov/water/water-qualityand-treatment/water-sources-resource-protection/.
- Hamilton County, Ohio. 2018. Cincinnati Area Geographic Information System. Accessed December 2018. Available at: http://cagismaps.hamiltonco.org/cagisportal/mapdata/download.
- Hamilton County Stormwater District. 2018. "Hamilton County Stormwater District." Accessed December 8, 2018, http://www.hcswd.org/about.html.

Midwest Biological Institute and Metropolitan Sewer District of Greater Cincinnati. 2011. *Biological and Water Quality Study of Mill Creek and Tributaries*. Accessed February 18, 2019. Available at: http://www.msdgc.org/downloads/initiatives/water_quality/2011_mill_creek_biological _water_quality_study.pdf.

- Mill Creek Watershed Council of Communities. 2016. Nine-Element Nonpoint Source Implementation Strategic Plan (NPS-IS Plan) Sharon Creek – Mill Creek HUC-12 (05090203 01 03). Accessed December 5, 2018. Available at: https://epa.ohio.gov/Portals/35/nps/319docs/SharonCreekMillCreekV1_0.pdf.
- Ohio Department of Natural Resources (ODNR). 2018. "Ohio Dam Safety Program." Accessed December 10, 2018. Available at: http://water.ohiodnr.gov/safety/dam-safety.
- _____. 2006. Bedrock geologic map of Ohio: Map BG-1, generalized page-size version with text, 2p., scale 1:2,000,000. [Revised 2017].
- _____. 2005. Emergency Action Plan (EAP) Guidelines. Available at: https://water.ohiodnr.gov/portals/soilwater/pdf/dam/ICODS_EAP_Guidelines.pdf.

__. 1986. *Groundwater Resources of Hamilton County*. Accessed December 6, 2018. Available at:

http://water.ohiodnr.gov/portals/soilwater/pdf/maps/groundwater/Hamilton_GWR_35x 28.pdf.

- Ohio Department of Transportation. 2018. "Traffic Monitoring Management System." Accessed December 12, 2018. Available at: http://odot.ms2soft.com/.
- Ohio Environmental Protection Agency (OEPA). 2018a. Groundwater Quality Characterization Program. Accessed December 10, 2018. Available at: https://www.epa.ohio.gov/ddagw/gwqcp#115412886-ohios-aquifers.
- _____. 2018b. Ohio Integrated Water Quality Monitoring and Assessment Report. Accessed December 5, 2018. Available at: https://www.epa.ohio.gov/dsw/tmdl/OhioIntegratedReport#1798510016-report.
- Soil Science Society of America. 2009. "Impact of Floods on Soils." ScienceDaily. April 16. Accessed January 24, 2019. Available at: https://www.sciencedaily.com/releases/2009/04/090408140204.htm.
- Southwest Ohio Regional Transit Authority. 2018. Home Go Metro. Accessed December 12, 2018. Available at: http://www.go-metro.com/.
- University of Tennessee. 2007. Floodplain Management Principles and Current Practices Chapter
 8: Floodplain Natural Resources and Functions. The University of Tennessee: Knoxville,
 Tennessee. Accessed January 18, 2019. Available at:
 https://training.fema.gov/hiedu/aemrc/courses/coursetreat/fm.aspx.
- U.S. Army Corps of Engineers (USACE). 2019. National Inventory of Dams. Accessed February 20, 2019. Available at: https://nid-test.sec.usace.army.mil/ords/f?p=105:1.
- U.S. Census Bureau. 2016. 2012-2016 American Community Survey 5-Year Estimates for Sharonville, Ohio. Accessed January 25, 2019. Available at: https://www.census.gov/programs-surveys/acs/.
- _____. 2010. Urbanized Area Reference Map: Cincinnati, OH-KY-IN. Accessed December 10, 2018. Available at: https://www.census.gov/geo/maps-data/maps/2010ua.html.
- U.S. Department of Agriculture (USDA). Natural Resources Conservation Service. 2019. Web Soil Survey. Accessed December 5, 2018. Available at: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx.
 - __. 2011. "Eden Series." Accessed December 11, 2008. Available at: https://soilseries.sc.egov.usda.gov/OSD_Docs/E/EDEN.html.

- _. 2008. "Genesee Series." Accessed December 11, 2008. Available at: https://soilseries.sc.egov.usda.gov/OSD_Docs/G/GENESEE.html.
- _____. 2005. "Urban Soil Primer." Accessed December 11, 2018. Available at: https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052835.pdf.
- U.S. Environmental Protection Agency (EPA). 2018a. EJSCREEN. Accessed December 12, 2018. Available at:

https://ejscreen.epa.gov/mapper/index.html?wherestr=sharonville%2C+ohio.

- _____. 2018b. Green Book: Current Nonattainment Counties for All Criteria Pollutants. Accessed January 15, 2019. Available at: https://www3.epa.gov/airquality/greenbook/ancl.html.
- _____. 2018c. NEPAssist. Accessed on December 7, 2018. Available at: https://www.epa.gov/nepa/nepassist.
- U.S. Fish and Wildlife Service (USFWS). 2019. National Wild and Scenic Rivers System (web portal). Accessed February 18, 2019. Available at: https://www.rivers.gov/ohio.php.
- . 2018a. Coastal Barrier Resources System Mapper. Accessed on December 5, 2018. Available at: https://www.fws.gov/CBRA/Maps/Mapper.html.
 - . 2018b. Information for Planning and Consultation (IPaC). Accessed December 12, 2018. Available at: https://www.fws.gov/southeast/conservation-tools/information-forplanning-and-consultation/.
- . 2018c. National Wetlands Inventory (NWI) Mapper. Accessed December 15, 2018. Available at: https://www.fws.gov/wetlands/data/Mapper.html.
- USFWS Midwest Region. 2018. "Endangered Species in Ohio." Accessed January 23, 2019. Available at: https://www.fws.gov/midwest/ohio/EndangeredSpecies/index.html.

8 LIST OF PREPARERS

Federal Emergency Management Agency

Reviewers	Experience and Expertise	Role in Preparation
Duane Castaldi	Regional Environmental Officer	Project Monitor
Maureen Cunningham	Regional Counsel	Legal Review
Nicholas Dorochoff	Deputy REO	Technical Monitor
Jessica Eleff	Environmental Protection Specialist	Region V Staff

CDM Smith

Preparers	Experience and Expertise	Role in Preparation
Emma Argiroff	Environmental Planner	NEPA Documentation
Malena Foster	GIS Specialist	GIS
Jennifer Graf	Senior Planner	NEPA Documentation/ Review
Alan Hachey, AICP	Technical Environmental Lead	Technical Lead
Desiree Joseph	Project Manager	Project Manager
Tsui Li	Environmental Planner	NEPA Documentation
Kate Stenberg, Ph.D.	Quality Control	Quality Control


Figure 1: Regional Project Location Map



Figure 2: Project Vicinity Map – City of Sharonville



Figure 3: Project Area - Sharonville Detention Reservoir



Figure 4: Project Area – Main Street Culvert

National Flood Hazard Layer FIRMette

3.M

21.22.12

T1N R4E S24





SHARONWIELE

CULY OF

Zone A

OOD HAZARD

Ē

TIN R4E S23

AREA

39061 C0094E

City of Sharonville Flood Mitigation Project Draft Environmental Assessment

April 2019

Figure 5: FIRMette (FIRM# 39061C0094E)

1:6,000

Feet

2,000

1,500

1,000

500

250

C

National Flood Hazard Layer FIRMette

39°16'20.13"N

M. \$9'2.92.98





<u> Xreacf Minimal, flood hazard</u>

B

A Statistics

T1N R4E S2

205 FEET

99 FEED

333 83G

697/FEE

A'FEET

4

4

E

5054

0

ī

C

SHARONVILLE

CIT.V

9

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for urmapped and ummodernized areas cannot be used for regulatory purposes.

3°15'52.28

1:6,000

1,500

1,000

500

250

579 EE

USGS The Feet 2,000 City of Sharonville Flood Mitigation Project Draft Environmental Assessment

Figure 6: FIRMette (FIRM# 39061C0093E)

April 2019



Source: Stantec, 2017.

Figure 7: Existing Auxiliary Spillway



Source: Stantec 2017.

Figure 8: Twin-Box Culvert Inlet



Source: Stantec, 2017.





Source: Stantec, 2017.

Figure 10: Debris and Sediment Accumulation City of Sharonville Flood Mitigation Project Draft Environmental Assessment



Figure 11: Auxiliary Spillway Design Concept



Labyrinth weir service spillway (New Mexico Interstate Stream Commission), Ute Dam, New Mexico

Source: US Bureau of Reclamation 2014.

Figure 12: Labyrinth Weir Spillway Example



Sources: Project Areas: CDM Smith, 2018; Basemap: Hamilton County, 2017 accessed at: https: cagismaps.hamilton-co.org.

Figure 13: Twin-Box Culvert Replacement Concept



Figure 14: Soils – Detention Reservoir Project Area



Figure 15: Soils –Culvert Replacement Project Area



Figure 16: Existing and Modified Floodplain



Figure 17: Wetlands- Detention Reservoir Project Area



Figure 18: Wetlands- Culvert Replacement Project Area



Figure 19: Land Use – Detention Reservoir Project Area



nville Zoning Map: https:// Hamilton County, 2018, data from amilton County, 2017 accessed at: oject Areas: CDM Smith, 2018; Zo https://msc.fema.gov/portal/home ources: P ccessed a

Figure 20: Zoning – Detention Reservoir Project Area



Figure 21: Land Use – Culvert Replacement Project Area



Figure 22: Zoning – Culvert Replacement Project Area



Figure 23: Parcel Boundaries – Culvert Replacement Project Area



April 2019



Figure 25: Potential Detour Route



Figure 26: Percentage of Low-Income Population by Census Tract



Figure 27: Percentage of Minority Population by Block Group



Source: City of Sharonville, 2010

Figure 28: Existing Land Use – Downtown Sharonville



Source: City of Sharonville, 2010



Appendix B Floodplain Management Eight-Step Documentation

EXECUTIVE ORDER 11988

FLOODPLAIN MANAGEMENT – CHECKLIST (44 CFR Part 9)

TITLE: City of Sharonville Flood Mitigation Project

PROPOSED ACTION: Flood mitigation project to reduce flood hazards by modifying a detention reservoir, removing a culvert, and constructing a bridge on Main Street in the City of Sharonville, Ohio.

APPLICABLILITY: Actions which have the potential to affect floodplains or their occupants, or which are subject to potential harm by location in floodplains.



The proposed action could potentially adversely affect the floodplain.

The proposed action could potentially be adversely affected by the floodplain.

Remarks: Project contains mitigation measures to avoid impacts to residential and commercial structures in downtown Sharonville from future flooding events.

IF ANSWER IS NO, REVIEW IS COMPLETED, OTHERWISE CONTINUE WITH REVIEW.

Mark the review steps required per applicability: \square 1 \square 2 \square 3 \square 4 \square 5 \square 6 \square 7 \square 8

CRITICAL ACTION:

	YES
Х	NO

Review against 500 Year floodplain Review against 100 Year floodplain

SCOPE OF WORK

To reduce the risk of 100-year floods in downtown Sharonville, the Proposed Action would: 1) replace the existing 273-foot twin box culvert on a tributary to Sharon Creek at Main Street with an open channel box-beam bridge to increase the conveyance capacity of the stream channel and 2) modify the auxiliary spillway of the Sharonville Detention Reservoir with a labyrinth weir to increase the storage volume of the detention reservoir. Additionally, the project would restore approximately 450 linear feet of the tributary using a natural channel design approach that would allow it to operate within its natural function and form, and restore the riparian areas on the stream banks using live brush layering and native plantings.

STEP NO. 1 Determine whether the proposed action is located in the 100-year floodplain (500-year floodplain for critical actions);

Flood Hazard data available

The project is located within an "AE" zone area of 100-year flooding per Flood Insurance Rate Map (FIRM) panels 39061C0093E and 39061C0094E, dated February 17, 2010.

IF ANY OF THE ANSWERS ARE YES, CONTINUE WITH THE FOLLOWING STEPS, OTHERWISE REVIEW IS COMPLETE.

STEP NO. 2 Notify the public at the earliest possible time of the intent to carry out an action in a floodplain, and involve the affected and interested public in the decision-making process.

YES Notice was provided as part of a disaster cumulative notice.

Date of Public Notice: The initial public notice was published in the April 18, 2018 issue of the *Cincinnati Enquirer* (daily newspaper).

STEP NO. 3 Identify and evaluate practicable alternatives to locating the proposed action in a floodplain (including alternatives sites, actions and the "no action" option). If a practicable alternative exists outside the floodplain, FEMA must locate the action at the alternative site.

Alternative Options

Is there a practicable alternative site location outside of the 100-Year floodplain?

The subrecipient evaluated several alternatives to the Proposed Action including: raising the height of the dam to entirely contain the 100-year event without the use of the auxiliary spillway, constructing floodwalls, and acquiring property. The subrecipient determined that raising the height of the dam without use of the spillway would be much costlier than the Proposed Action. Floodwalls would not address the flood-constricting effects of the culvert. Property acquisitions would also be much costlier and would affect the City's economy due to the large number of commercial properties that would need to be acquired. Although the No Action Alternative would not impact the 100-year floodplain, it would not meet the purpose and need for the project to reduce or eliminate long-term risk of flood damage to structures insured under the National Flood Insurance Program.

IF ANY ANSWER IS YES, THEN FEMA SHALL TAKE THAT ACTION AND THE REVIEW IS CONCLUDED.

STEP NO. 4 Identify the potential direct and indirect impacts associated with the occupancy or modification of floodplains and the potential direct and indirect support of floodplain development that could result from the proposed action. 44CFR Part 9.10

 □YES ⊠NO
 Is the

 ⊠YES ⊡NO
 Is the

Is the Proposed Action based on incomplete information?

Is the proposed action in compliance with the NFIP?

	Does the proposed action increase the risk of flood loss?
∐YES ⊠NO	Will the proposed action result in an increased base discharge or increase the flood hazard potential to other properties or structures?
	Does the proposed action minimize the impact of floods on human health, safety and welfare?
	Will the proposed action induce future growth and development, which will potentially adversely affect the floodplain?
	Does the proposed action involve dredging and/or filling of a floodplain?
	Will the proposed action result in the discharge of pollutants into the floodplain?
	Does the proposed action avoid long and short-term adverse impacts associated with the occupancy and modification of floodplains?
	Will the proposed action result in any indirect impacts that will affect the natural values and functions of floodplains?
NOTE: If wetlands are near or potentially affected, refer review to the Environmental Section.	
	Will the proposed action forego an opportunity to restore the natural and beneficial values served by floodplains?
	Does the proposed action restore and/or preserve the natural and beneficial values served by floodplains?
	Will the proposed action result in an increase to the useful life of a structure or facility?

The Proposed Action would reduce the size of the 100-year floodplain by 13.5 acres. In the long-term, the Proposed Action would reduce the base flood elevation of the floodplain over four feet at Main Street from 593.3 to 588.5 feet (NAVD 88). Fifty-eight properties in the downtown area would be removed from the existing 100-year floodplain. Other direct impacts to the floodplain include construction activities within the floodplain, such as culvert removal, bridge construction, stream bank restoration, construction of the labyrinth weir, and landscaping of open space areas.

In the culvert replacement project area, the Proposed Action would have minor long-term beneficial impacts on the tributary's floodplain from the restoration of approximately 450 linear feet of stream, 5,545 square feet of riparian area, and 16,402 square feet of green open space adjacent the stream. This restoration would improve the natural and beneficial values of the tributary and its associated floodplain, including natural erosion control, surface water quality maintenance, and biological productivity.

The construction of a labyrinth weir at the detention reservoir would provide increased flood storage during a 100year flood event as compared to the current configuration. The additional weir length and height would increase the storage volume of the reservoir. The current water surface elevation in the reservoir during a 100-year flood event is 678.2 feet. The elevation would increase to 681.0 feet during a 100-year flood event as a result of the Proposed Action.

To address potential floodplain and surface water impacts, the subrecipient would obtain approvals to construct the Proposed Action in accordance with the National Flood Insurance Act, Section 401 and 404 of the Clean Water Act, and State of Ohio laws relating to dam safety and construction (Ohio Administrative Code § 1501:21). The subapplicant must obtain a Conditional Letter of Map Revision and Letter of Map Revision from FEMA to document that the increased elevation would not exacerbate flooding of structures adjacent to the detention reservoir.

STEP NO. 5 Minimize the potential adverse impacts and support to or within floodplains to be identified under Step 4, restore and preserve the natural and beneficial values served by floodplains.

⊠YES □NO	Were flood hazard reduction techniques (see technical bulletins) applied to the proposed action to minimize the flood impacts if site location is in the 100-Year floodplain?
⊠YES ⊡NO	Were avoidance and minimization measures applied to the proposed action to minimize the short and long term impacts on the 100-Year floodplain?
	Were measures implemented to restore and preserve the natural and beneficial values of the floodplain.

The Proposed Action would replace the existing twin box culvert at Main Street with an open channel box-beam bridge to increase the conveyance capacity of the stream channel during a 100-year flood event. The labyrinth weir would increase storage volume of the detention reservoir, decrease peak flow discharge rates, and delay the timing of the peak flow during a flood event. The increased height and weir length would allow for additional operational flexibility to manage storm flows and discharges from the reservoir while maintaining compliance with the Ohio Department of Natural Resources Division of Water Resources standards for dam safety.

To avoid, minimize, or mitigate potential construction impacts, the subapplicant would adhere to the City of Sharonville floodplain development ordinance, which outlines mitigation measures for construction in floodplains.

STEP NO. 6

Reevaluate the proposed action to determine first, if it is still practicable in light of its exposure to flood hazards, the extent to which it will aggravate the hazards to others, and its potential to disrupt floodplain values and second, if alternatives preliminarily rejected at Step 3 are practicable in light of the information gained in Steps 4 and 5. FEMA shall not act in a floodplain unless it is the only practicable location.

⊠YES □NO	The action is still practicable at a floodplain site in light of the exposure to flood risk and ensuing disruption of natural values;
YES NO	The floodplain site is the only practicable alternative.
	There is no potential for limiting the action to increase the practicability of previously rejected non floodplain sites and alternative actions.
	The action in a floodplain clearly outweighs the requirement of E.O. 11988.

STEP NO. 7 Prepare and provide the public with a finding and public explanation of any final decision that the floodplain is the only practicable alternative.

 \boxtimes

Notice was provided as part of a disaster cumulative notice.

Date of Public Notice: Public notice will be published to solicit comment on the Draft Environmental Assessment for this project including potential effects on floodplains, to be published in an April issue of the Cincinnati Enquirer.

After providing the final notice, FEMA shall, without good cause shown, wait at least 15 days before carrying out the proposed action.

STEP NO. 8 Review the implementation and post - implementation phases of the proposed action to ensure that the requirements stated in Section 9.11 are fully implemented. Oversight responsibility shall be integrated into existing processes.

The proposed project would be conducted in accordance with applicable floodplain management requirements. Conditions identified in Step 5 will be implemented.

Appendix C Agency Correspondence



September 19, 2018

Mr. Scott Pruitt Acting Field Supervisor, Ohio Ecological Services Office U.S. Fish and Wildlife Service 4625 Morse Road, Suite 104 Columbus, OH 43230

Dear Mr. Pruitt:

This letter is to initiate informal consultation between the Federal Emergency Management Agency (FEMA) and your office under Section 7 of the Endangered Species Act of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) regarding a proposed stormwater project in Sharonville, Hamilton County, Ohio. The project is proposed for funding under FEMA's Flood Mitigation Assistance program (FMA); FMA-PJ-05-OH-2017-015.

Nine federally endangered, threatened, candidate, or species of concern are known to occur in Hamilton County: Indiana bat (E), northern long-eared bat (T), running buffalo clover (E), fanshell (E), pink mucket pearly mussel (E), rayed bean (E), sheepnose (E), snuffbox (E), and the bald eagle (SC).

FEMA is making a "no effect" determination for the Indiana bat (E), northern long-eared bat (T), fanshell (E), pink mucket pearly mussel (E), rayed bean (E), sheepnose (E), snuffbox (E), and the bald eagle (SC) and therefore is not consulting with the U.S. Fish and Wildlife Service (USFWS) regarding these species. As a condition of this grant tree removal will not be permitted between April 1and September 30 and therefore the bats will not be impacted. In addition, the Ohio DNR determined that a perennial stream of sufficient size is not a part of the project and therefore the fanshell, pink mucket pearly mussel, rayed bean, and sheepnose will not be impacted And finally, USFWS has previously confirmed that there are no known recorded bald eagle nests within a half mile of the project sites.

However, the Ohio DNR Natural Heritage Database has a record of the Running Buffalo Clover within a one mile radius of the project sites, and there is a potential for the Running Buffalo Clover to be present in the project area. Therefore, FEMA is requesting informal consultation with your office in regard to this species.

FEDERAL ACTIONS INCLUDED IN THIS CONSULTATION

Mr. Scott Pruitt September 19, 2018 Page 2

Through a FEMA FMA grant, the City of Sharonville proposes to reduce flooding in downtown Sharonville with this two component project. The project area includes portions of the Sharon Creek Tributary. In downtown Sharonville, between just east of Reading Road and just west of Main Street, activities include the removal of twin box culverts and the replacement with box beam bridge over an open channel. (39,268755, -84.411809) Stream restoration work will occur the length of the culvert (273 feet) and 100 feet both upstream and downstream. This will modify the alignment slightly and allow this segment of the stream to widen and match the stream segments upstream and downstream of the project site. Bio-engineering techniques have been proposed as part of the restoration. Overall the removal of the culvert and stream restoration should have beneficial impacts on the aquatic ecosystem. The project site is located within the 100 year floodplain and the project is expected to lower flood heights in the area.

The second project site is located at the Sharonville Dam (39.267480, -84.398737) and involves the modification of the current weir to a labyrinth weir. While ground disturbing activities will occur, the site is already a dam with a concrete road, concrete walls, rip rap, spillway and baffles. No species impact from this portion of the project would be anticipated.

STATUS OF RUNNING BUFFALO CLOVER IN PROJECT AREA

According to the USFWS website, the Running buffalo clover can be found in partially shaded woodlots, mowed areas (lawns, parks, cemeteries), and along streams and trails. Running buffalo clover requires periodic disturbance and a somewhat open habitat to successfully flourish, but cannot tolerate full-sun, full-shade, or severe disturbance. This habitat appears to be consistent with potential habitat along the Sharon Creek Tributary. In addition, in a letter dated May 16, 2018, the Ohio DNR noted that Running buffalo clover had been recorded within a mile radius of the project site.

AVOIDANCE AND MINIMIZATION MEASURES

The USFWS website recommends the following avoidance and minimization measures in order to minimize impact to the Running Buffalo Clover.

Wooded Sites

(mesic woods, sites near streams, etc.)

We recommend removal of individual, select trees to maintain a "dappled shade" environment. Cut stumps should be treated with a systemic herbicide to prevent resprouting.

Control invasive plants through manual pulling (e.g. garlic mustard) or selective herbicide application on cut stems (e.g. Amur honeysuckle).

No foliar herbicide application within 25 feet of RBC sites.
Mr. Scott Pruitt September 19, 2018 Page 3

No burning (see above).

Minimal soil disturbance (see above).

DETERMINATION

As noted above, the federal actions covered by this consultation are taking place within a one mile radius of a known occurrence of the Buffalo Running Clover and FEMA has a responsibility to ensure that its actions will not likely result in the adverse impact to this species. The project is expected to benefit Running buffalo clover habitat in the long term because it will restore the Sharon Creek Tributary to a more natural state with native species and riparian corridor.

Based on a review of the Running Buffalo Clover and its habitat requirement and the assumption that this project will not destroy all vegetation within the project area but in actually restore native habitat in the long run, FEMA has determined that the federally funded work described above may affect, but is not likely to adversely affect the Running buffalo clover.

FEMA requests your concurrence with this effect determination and input on any additional conservation measures required to ensure accuracy of this determination. Thank you for your attention and assistance. Should you have any questions, please contact FEMA Region V Environmental Officer, Duane Castaldi, Duane, Castaldi@fema.dhs.gov or at 312-408-5549.

Sincerely,

Duane Castaldi FEMA Region V Regional Environmental Officer

Enclosures: Maps of Project Area Map of Floodplain within Project Area Site Photos Ohio DNR Consultation Letter, May 16, 2018



Wed, Oct 3, 2018 at 7:08 AM

FEMA Stormwater Project in Sharonville, Hamilton County, Ohio

1 message

Ohio, FW3 <ohio@fws.gov> To: duane.castaldi@fema.dhs.gov



TAILS# 03E15000-2018-I-2112

Dear Mr. Castaldi,

We have received your recent correspondence regarding the above-referenced project. You have requested concurrence with your determination of effects to federally listed species, pursuant to section 7(a)(2) of the Endangered Species Act of 1973, as amended (ESA).

The U.S. Fish and Wildlife Service (Service) has reviewed your project description and concurs with your determination that the project, as proposed, is not likely to adversely affect the federally listed endangered running buffalo clover (*Trifolium stoloniferum*). This concurrence is based on the commitment to selectively remove trees to maintain a "dappled shade" environment, control invasive plant species, avoid foliar spraying of herbicides within 25 feet of running buffalo clover sites, avoid burning, and minimize soil disturbance.

This concludes consultation on this action as required by section 7(a)(2) of the ESA. Should, during the term of this action, additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, consultation with the Service should be reinitiated to assess whether the determinations are still valid.

If you have questions, or if we can be of further assistance in this matter, please contact our office at (614) 416-8993 or <u>ohio@fws.gov.</u>

Sincerely,

Scott Pruitt Acting Field Office Supervisor

UNITED STATES DEPARTMENT OF THE INTERIOR U.S. Fish and Wildlife Service Ecological Services Office 4625 Morse Road, Suite 104 Columbus, Ohio 43230 (614) 416-8993 / Fax (614) 416-8994



Ohio Department of Natural Resources



JOHN R. KASICH, GOVERNOR

JAMES ZEHRINGER, DIRECTOR

Office of Real Estate Paul R. Baldridge, Chief 2045 Morse Road – Bldg. E-2 Columbus, OH 43229 Phone: (614) 265-6649 Fax: (614) 267-4764

May 16, 2018

Dan Clevidence Ohio Emergency Management Agency 2855 W Dublin Granville Rd. Columbus, OH 43235

Re: 18-543; City of Sharonville Flood Mitigation Project

Project: The proposed project includes increasing the storage volume of the upstream Sharonville Detention Reservoir by modifying the spillway with a labyrinth weir and increasing the conveyance capacity adjacent to downtown Sharonville by replacing the existing culverts under Main Street.

Location: The proposed project is in the City of Sharonville, Hamilton County, Ohio.

The Ohio Department of Natural Resources (ODNR) has completed a review of the above referenced project. These comments were generated by an inter-disciplinary review within the Department. These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the National Environmental Policy Act, the Coastal Zone Management Act, Ohio Revised Code and other applicable laws and regulations. These comments are also based on ODNR's experience as the state natural resource management agency and do not supersede or replace the regulatory authority of any local, state or federal agency nor relieve the applicant of the obligation to comply with any local, state or federal laws or regulations.

Natural Heritage Database: The Natural Heritage Database has the following records at or within a one-mile radius of the project area:

Running buffalo clover (*Trifolium stoloniferum*), State and federally endangered Oak maple forest plant community Cliffs (geologic feature) Fossil deposit (geologic feature) Stream gorge (geologic feature) Sharon Woods Gorge State Nature Preserve – Hamilton Co. Park District Sharon Woods – Hamilton Co. Park District

The review was performed on the project area you specified in your request as well as an additional one-mile radius. Records searched date from 1980. This information is provided to inform you of features present within your project area and vicinity.

Please note that Ohio has not been completely surveyed and we rely on receiving information from many sources. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Although all types of plant communities have been surveyed, we only maintain records on the highest quality areas.

Fish and Wildlife: The Division of Wildlife (DOW) has the following comments.

The DOW recommends that impacts to streams, wetlands and other water resources be avoided and minimized to the fullest extent possible, and that best management practices be utilized to minimize erosion and sedimentation.

The project is within the range of the Indiana bat (Myotis sodalis), a state endangered and federally endangered species. The following species of trees have relatively high value as potential Indiana bat roost trees to include: shagbark hickory (Carya ovata), shellbark hickory (Carya laciniosa), bitternut hickory (Carya cordiformis), black ash (Fraxinus nigra), green ash (Fraxinus pennsylvanica), white ash (Fraxinus americana), shingle oak (Quercus imbricaria), northern red oak (*Quercus rubra*), slippery elm (*Ulmus rubra*), American elm (*Ulmus* americana), eastern cottonwood (*Populus deltoides*), silver maple (*Acer saccharinum*), sassafras (Sassafras albidum), post oak (Ouercus stellata), and white oak (Ouercus alba). Indiana bat roost trees consists of trees that include dead and dying trees with exfoliating bark, crevices, or cavities in upland areas or riparian corridors and living trees with exfoliating bark, cavities, or hollow areas formed from broken branches or tops. However, Indiana bats are also dependent on the forest structure surrounding roost trees. If suitable habitat occurs within the project area, the DOW recommends trees be conserved. If suitable habitat occurs within the project area and trees must be cut, the DOW recommends cutting occur between October 1 and March 31. If suitable trees must be cut during the summer months, the DOW recommends a net survey be conducted between June 1 and August 15, prior to any cutting. Net surveys should incorporate either nine net nights per square 0.5 kilometer of project area, or four net nights per kilometer for linear projects. If no tree removal is proposed, this project is not likely to impact this species.

The project is within the range of the sheepnose (*Plethobasus cyphyus*), a state endangered and federally endangered mussel, the fanshell (*Cyprogenia stegaria*), a state endangered and federally endangered mussel, the pink mucket (*Lampsilis orbiculata*), a state endangered and federally endangered mussel, the rayed bean (*Villosa fabalis*), a state endangered and federally endangered mussel, the snuffbox (*Epioblasma triquetra*), a state endangered mussel, the long-solid (*Fusconaia maculata maculata*), a state endangered mussel, the ebonyshell (*Fusconaia ebena*), a state endangered mussel, the long-solid (*Fusconaia maculata maculata*), a state endangered mussel, the washboard (*Megalonaias nervosa*), a state endangered mussel, the elephant-ear (*Elliptio crassidens crassidens*), a state endangered mussel, the Ohio pigtoe (*Pleurobema cordatum*), a state endangered mussel, the wartyback (*Quadrula nodulata*), a state endangered mussel, the black sandshell (*Ligumia recta*), a state threatened mussel, the fawnsfoot (*Truncilla donaciformis*), a state threatened mussel, and the threehorn wartyback (*Obliquaria reflexa*), a state threatened mussel. Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact these species.

The project is within the range of the shortnose gar (*Lepisosteus platostomus*), a state endangered fish, the shoal chub (*Macrhybopsis hyostoma*), a state endangered fish, the shovelnose sturgeon (*Scaphirhynchus platorynchus*), a state endangered fish, the lake sturgeon (*Acipenser fulvescens*), a state endangered fish, the northern madtom (*Noturus stigmosus*), a state endangered fish, the bigeye shiner (*Notropis boops*) a state threatened fish, the mountain madtom (*Noturus eleutherus*), a state threatened fish, the river darter (*Percina shumardi*) a state threatened fish, the channel darter (*Percina copelandi*), a state threatened fish, the blue sucker (*Cycleptus elongatus*), a state threatened fish, and the paddlefish (*Polyodon spathula*) a state threatened fish. The DOW recommends no in-water work in perennial streams from April 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat.

The project is within the range of the Kirtland's snake (*Clonophis kirtlandii*), a state threatened species. This secretive species prefers wet meadows and other wetlands. Due to the location, the type of work proposed, and the type of habitat present at the project site and within the vicinity of the project area, this project is not likely to impact this species.

The project is within the range of the cave salamander (*Eurycea lucifuga*), a state endangered species. Due to the location, the type of work proposed, and the type of habitat present at the project site and within the vicinity of the project area, this project is not likely to impact this species.

The project is within the range of the American bittern (*Botaurus lentiginosus*), a state endangered bird. Nesting bitterns prefer large undisturbed wetlands that have scattered small pools amongst dense vegetation. They occasionally occupy bogs, large wet meadows, and dense shrubby swamps. Due to the location, the type of work proposed, and the type of habitat present at the project site and within the vicinity of the project area, this project is not likely to impact this species.

The project is within the range of the lark sparrow (*Chondestes grammacus*), a state endangered bird. This sparrow nests in grassland habitats with scattered shrub layers, disturbed open areas, as well as patches of bare soil. In the Oak Openings area west of Toledo, lark sparrows occupy open grass and shrubby fields along sandy beach ridges. These summer residents normally migrate out of Ohio shortly after their young fledge or leave the nest. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 to June 30. If this habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the Sloan's crayfish (*Orconectes sloanii*), a state threatened species. Due to the location, this project is not likely to impact this species.

Due to the potential of impacts to federally listed species, as well as to state listed species, we recommend that this project be coordinated with the U.S. Fish & Wildlife Service.

Water Resources: The Division of Water Resources has the following comment.

The local floodplain administrator should be contacted concerning the possible need for any floodplain permits or approvals for this project. Your local floodplain administrator contact information can be found at the website below.

http://water.ohiodnr.gov/portals/soilwater/pdf/floodplain/Floodplain%20Manager%20Community %20Contact%20List_8_16.pdf

ODNR appreciates the opportunity to provide these comments. Please contact John Kessler at (614) 265-6621 if you have questions about these comments or need additional information.

John Kessler ODNR Office of Real Estate 2045 Morse Road, Building E-2 Columbus, Ohio 43229-6693 John.Kessler@dnr.state.oh.us

Dan,

We do not have records of any bald eagle nests within 0.5 mile of the addresses listed in your trailing email.

Jeromy

Jeromy Applegate Fish and Wildlife Biologist U S Fish and Wildlife Service Ohio Ecological Services Field Office 4625 Morse Rd., Suite 104 Columbus, OH 43230 Phone: 614-416-8993 ext. 21 FAX: 614-416-8994

On Wed, Apr 18, 2018 at 9:34 AM, <u>DTClevidence@dps.ohio.gov</u> <<u>DTClevidence@dps.ohio.gov</u>> wrote:

Jeromy,

The Ohio Emergency Management Agency is requesting information on Bald Eagle nests that may be located within ½ mile of a proposed project site. The project is for the replacement of a culvert/stream restoration and the construction of a labyrinth weir on the Sharonville Detention Reservoir through the Federal Emergency Management Agency's (FEMA) Flood Mitigation Assistance (FMA) Program. According to our Memorandum of Agreement, please check your data to confirm that no Bald Eagle nests are within ½ mile of the property included on the property listing below.

ID	Property Owner	Address/Coordinates	Construction	Parcel Number
1	City of Sharonville	Creek Road Lat: 39.267480/ Long: -84.398737	Labyrinth Weir	608-0020- 0238-90

ID	Property Owner	Address/Coordinates	Construction	Parcel Number
2	City of Sharonville	Main Street Lat: 39.268755/	Culvert replacement	Right of way
		Long: -84.411809		

I am attaching a topographical map and street map detailing the current project area. The proposed project site is located on the Glendale Quadrangle. If possible, Ohio EMA would appreciate your response within the next 30 days. If you require additional, please contact me at 614/799-3533 or <u>dtclevidence@dps.ohio.gov</u>. Thank you for your assistance.

Respectfully,

Dan Clevidence, CFM

Mitigation Specialist

Ohio Emergency Management Agency

Ohio Department of Public Safety

2855 W. Dublin-Granville Road

Columbus, OH 43235

Email: <u>dtclevidence@dps.ohio.gov</u>

Office: (614) 799-3533

Fax: (614) 799-3526





Bureau of Motor Vehicles

- Emergency Management Agency
- Emergency Medical Services
- Office of Criminal Justice Services
- Ohio Homeland Security
- Ohio State Highway Patrol



John R. Kasich, Governor John Born, Director Sima S. Merick Executive Director

Emergency Management Agency 2855 West Dublin-Granville Road Columbus, Ohio 43235-2206 (614) 889-7150 www.ema.ohio.gov

April 18, 2018

Ms. Diana Welling Department Head Ohio Historic Preservation Office 800 East 17th Avenue Columbus, OH 43211-2474

City of Sharonville Flood Mitigation Project - FMA

Dear Ms. Welling:

In accordance with Section 106 of the National Historic Preservation Act and its implementing regulations, we have reviewed the listed project described below and are requesting your comments and concurrence.

The City of Sharonville has been selected by the Federal Emergency Management Agency's (FEMA) Flood Mitigation Assistance (FMA) to reduce flooding by replacing culverts under Main Street and constructing a labyrinth weir at the Sharonville Detention Dam.

Enclosed is a project summary form and documentation table, a packet of maps exemplifying the project area and photographs illustrating the associated structure and the project areas. The Ohio Emergency Management Agency is of the opinion that there are no architecturally or historically significant structures and the construction of the project structures will not impact any historically significant structures.

If possible, Ohio EMA would appreciate your response within the next 30 days. If you require additional information, please contact me at (614) 799-3533. Thank you for your assistance.

Sincerely,

Dan Clevidence Mitigation Specialist

Enclosures

Mission Statement To coordinate activities to miligate, prepare for, respond to, and recover from disasters



Emailed by SHPO

In reply, please refer to: 2018-HAM-41794

May 17, 2018

Dan Clevidence Mitigation Specialist Ohio Emergency Management Agency 2855 West Dublin-Granville Road Columbus, Ohio 43235-2206

RE: City of Sharonville Flood Mitigation Project Sharonville, Hamilton County, Ohio

Dear Mr. Clevidence:

This letter is in response to correspondence received on April 20, 2018. Our comments are made pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended, and the associated regulations at 36 CFR Part 800.

The City of Sharonville has been identified by the Federal Emergency Management Agency's (FEMA) Flood Mitigation Assistance (FMA) program to replace culverts near the intersection of Main Street and Sharon Road, acquire one residential property located at 11005 Main Street, and construct a labyrinth weir on the Sharonville Detention Dam. You have requested the comments of Ohio's State Historic Preservation Office regarding the effects of the proposed flood mitigation projects on historic properties.

A check of our records indicates that properties in the projects' APE are not listed in the National Register of Historic Places or included in the Ohio Historic Inventory. Based on the information submitted, it is our opinion that properties in the APE do not meet the minimum criteria for inclusion in the National Register of Historic Places. Therefore, we concur that the proposed flood mitigation projects will have no effect on historic properties. No further coordination with this office is necessary, unless there is a change in the proposed project.

If you have any questions, please contact me at jwilliams@ohiohistory.org or (614) 298-2000. Thank you for your cooperation.

Sincerely,

Joy Williams, Project Reviews Manager Resource Protection and Review

"Please be advised that this is a Section 106 decision. This review decision may not extend to other SHPO programs." RPR Serial No: 1073615

800 E. 17th Ave., Columbus, OH 43211-2474 • 614.297.2300 • ohiohistory.org



U.S. Department of Homeland Security Federal Emergency Management Agency 536 South Clark Street, 6th Floor Chicago, Illinois 60605-1521



March 7, 2019

Diana Welling Deputy State Historic Preservation Officer Ohio Historic Preservation Office 800 East 17th Avenue Columbus, Ohio 43211

Re: City of Sharonville Flood Mitigation Project – FMA-PJ-05-OH-2017-015 (OHPO # 2018-HAM-41794)

Dear Ms. Welling:

The City of Sharonville has proposed the replacement of culverts with a bridge near the intersection of Main Street and Sharon Road, with related stream restoration work, acquisition and demolition of one residential building at 11005 Main Street, and relocation of utilities; along with the construction of a labyrinth weir on the Sharonville Detention Reservoir with access to Creek Road along the existing road to the west of the dam, and a construction staging area to the east side of the dam. The area of potential effects (APE) is limited to the project area as shown on the enclosed maps.

The undertaking has been reviewed to determine the presence of historic properties. Documentation meeting the requirements of 36 CFR §800.11, including USGS topographic maps, photographs, and street and floodplain maps, was collected for review and shared with the State Historic Preservation Office (SHPO). In a letter dated May 17, 2018, the SHPO confirmed that no historic properties will be affected by the proposed project. The public was notified of the intent to carry out this project in a public notice posted in the *Cincinnati Community Press/Enquirer* on April 18th, 2018.

Based on the information provided in the documentation referenced above and in the absence of information to the contrary, FEMA finds that no historic properties are affected by this undertaking and regards the SHPO's comment as concurrence with this finding.

Pursuant to 36 CFR §800.3(c)(3), FEMA shall proceed with the proposed undertaking. If you have questions or comments please contact me at 312-408-5549 or duane.castaldi@fema.dhs.gov.

Sincerely,

Jun là

Duane Castaldi Regional Environmental Officer FEMA Region V

Enclosures

www.fema.gov



Figure 4: Project Area – Main Street Culvert

Draft Environmental Assessment March 2019 City of Sharonville Flood Mitigation Project



Figure 3: Project Area – Sharonville Detention Reservoir

Draft Environmental Assessment March 2019 City of Sharonville Flood Mitigation Project



U.S. Department of Homeland Security Federal Emergency Management Agency 536 S. Clark St., 6th Floor Chicago, Illinois 60605-1521



September 28, 2018

Larry Heady, Special Assistant Delaware Tribe of Indians Delaware Tribe Historic Preservation Office

1929 East 6th Street Duluth, MN 55812

Re: Sharonville Flood Reduction, Hamilton County, Ohio (FMA-PJ-05-OH-2017-015)

Dear Mr. Heady:

In accordance with the National Historic Preservation Act and other legislation, the Federal Emergency Management Agency (FEMA) has determined that the captioned activity will constitute a federally–assisted undertaking, requiring a Section 106 Review under the National Historic Preservation Act of 1966, as amended.

The City of Sharonville proposes to reduce flooding along the Sharon Creek Tributary through with this two component project. In downtown Sharonville, between just east of Reading Road and just west of Main Street, activities include the removal of twin box culverts and the replacement with box-beam bridge over an open channel. (39.268755, -84.411809) Stream restoration work will occur the length of the culvert (273 feet) and 100 feet both upstream and downstream. This will modify the alignment slightly and allow this segment of the stream to widen and match the stream segments upstream and downstream of the project site. The project site is located within the 100 year floodplain and the project is expected to lower flood heights in the area.

The second project site is located at the Sharonville Dam (39.267480, -84.398737) and involves the modification of the current weir to a labyrinth weir. Ground disturbance at this location will involve modifications to the existing infrastructure, including the dam, concrete road, concrete walls, rip rap, spillway and baffles.

The Ohio State Historic Preservation Office has been consulted regarding the potential of this project to affect historic properties, and in a letter of May 17, 2018, has noted that available information suggests that no historic properties will be adversely affected by this undertaking.

www.fema.gov

Sharonville Flood Reduction (FMA-PJ-05-2017-015) September 28, 2018 Page 2

FEMA recognizes the special and unique legal relationship that exists between the Federal Government and federally-recognized American Indian Tribes (Tribes). FEMA also recognizes that Tribes may attach religious and cultural significance to historic properties located on aboriginal, ancestral or ceded lands that are not contiguous with reservation lands. For this reason, FEMA consults with Tribes regarding the possible effects of FEMA-funded undertakings on cultural properties of historic or traditional significance, referred to as Traditional Cultural Properties (TCPs).

We invite your comments on the potential impacts these activities may have on lands traditionally used by or sacred to the Delaware Tribe of Indians or other Native American groups. We understand the sensitive nature of much of the information regarding TCPs and assure you in advance that any information you provide will be considered privileged and confidential. In order to safeguard cultural resources or TCPs of interest to Native Americans, we are contacting the following Tribes requesting information regarding their interests in the affected county:

Delaware Tribe of Indians

Osage Nation

Receiving information from you regarding any areas of interest to the Delaware Tribe of Indians, or notice of Tribes other than those listed above that may have an interest in the designated counties would improve FEMA's efforts to protect resources that may exist in the areas noted on the enclosed maps.

If you have questions or information that will help us protect properties having cultural importance, do not hesitate to contact me at 312-408-5549 or <u>duane.castaldi@fema.dhs.gov</u>. We would appreciate a response by mail or email from your office within thirty (30) days. If we receive no response within that time, we will assume that this project has no impact to TCPs of interest to the Delaware Tribe of Indians and will move forward with the project.

Sincerely,

Dune las

Duane Castaldi Regional Environmental Officer FEMA Region V

enclosures



September 28, 2018

Andrea Hunter, Director & Tribal Historic Preservation Officer Osage Nation 627 Grandview Avenue Pawhuska, Oklahoma 74056

Re: Sharonville Flood Reduction, Hamilton County, Ohio (FMA-PJ-05-OH-2017-015)

Dear Dr. Hunter:

In accordance with the National Historic Preservation Act and other legislation, the Federal Emergency Management Agency (FEMA) has determined that the captioned activity will constitute a federally–assisted undertaking, requiring a Section 106 Review under the National Historic Preservation Act of 1966, as amended.

The City of Sharonville proposes to reduce flooding along the Sharon Creek Tributary through with this two component project. In downtown Sharonville, between just east of Reading Road and just west of Main Street, activities include the removal of twin box culverts and the replacement with box-beam bridge over an open channel. (39.268755, -84.411809) Stream restoration work will occur the length of the culvert (273 feet) and 100 feet both upstream and downstream. This will modify the alignment slightly and allow this segment of the stream to widen and match the stream segments upstream and downstream of the project site. The project site is located within the 100 year floodplain and the project is expected to lower flood heights in the area.

The second project site is located at the Sharonville Dam (39.267480, -84.398737) and involves the modification of the current weir to a labyrinth weir. Ground disturbance at this location will involve modifications to the existing infrastructure, including the dam, concrete road, concrete walls, rip rap, spillway and baffles.

The Ohio State Historic Preservation Office has been consulted regarding the potential of this project to affect historic properties, and in a letter of May 17, 2018, has noted that available information suggests that no historic properties will be adversely affected by this undertaking.

Sharonville Flood Reduction (FMA-PJ-05-2017-015) September 28, 2018 Page 2

FEMA recognizes the special and unique legal relationship that exists between the Federal Government and federally-recognized American Indian Tribes (Tribes). FEMA also recognizes that Tribes may attach religious and cultural significance to historic properties located on aboriginal, ancestral or ceded lands that are not contiguous with reservation lands. For this reason, FEMA consults with Tribes regarding the possible effects of FEMA-funded undertakings on cultural properties of historic or traditional significance, referred to as Traditional Cultural Properties (TCPs).

We invite your comments on the potential impacts these activities may have on lands traditionally used by or sacred to the Osage Nation or other Native American groups. We understand the sensitive nature of much of the information regarding TCPs and assure you in advance that any information you provide will be considered privileged and confidential. In order to safeguard cultural resources or TCPs of interest to Native Americans, we are contacting the following Tribes requesting information regarding their interests in the affected county:

Delaware Tribe of Indians

Osage Nation

Receiving information from you regarding any areas of interest to the Osage Nation, or notice of Tribes other than those listed above that may have an interest in the designated counties would improve FEMA's efforts to protect resources that may exist in the areas noted on the enclosed maps.

If you have questions or information that will help us protect properties having cultural importance, do not hesitate to contact me at 312-408-5549 or <u>duane.castaldi@fema.dhs.gov</u>. We would appreciate a response by mail or email from your office within thirty (30) days. If we receive no response within that time, we will assume that this project has no impact to TCPs of interest to the Osage Nation and will move forward with the project.

Sincerely,

Deen laster

Duane Castaldi Regional Environmental Officer FEMA Region V

enclosures



Osage Nation Historic Preservation Office

AVYYYY ROCU RUBON

Date: November 20, 2018

File: 1819-1943OH-10

RE: FEMA Region 5, FMA-PJ-05-OH-2017-015 Sharonville Flood Reduction Hamilton County, OH

FEMA Region 5 Duane Castaldi 536 S Clark St, 6th Floor Chicago, IL 60605-1521

Dear Mr. Castaldi,

The Osage Nation Historic Preservation Office has evaluated your submission and concurs that the proposed FEMA Region 5, FMA-PJ-05-OH-2017-015 Sharonville Flood Reduction Hamilton County, OH most likely will not adversely affect any sacred properties and/or properties of cultural significance to the Osage Nation. The Osage Nation has no further concern with this project.

In accordance with the National Historic Preservation Act, (NHPA) [54 U.S.C. § 300101 et seq.] 1966, undertakings subject to the review process are referred to in 54 U.S.C. § 302706 (a), which clarifies that historic properties may have religious and cultural significance to Indian tribes. Additionally, Section 106 of NHPA requires Federal agencies to consider the effects of their actions on historic properties (36 CFR Part 800) as does the National Environmental Policy Act (43 U.S.C. 4321 and 4331-35 and 40 CFR 1501.7(a) of 1969). The Osage Nation concurs that the FEMA Region 5 has fulfilled NHPA compliance by consulting with the Osage Nation Historic Preservation Office in regard to the proposed FEMA Region 5, FMA-PJ-05-OH-2017-015 Sharonville Flood Reduction Hamilton County, OH.

The Osage Nation has vital interests in protecting its historic and ancestral cultural resources. We do not anticipate that this project will adversely impact any cultural resources or human remains protected under the NHPA, NEPA, the Native American Graves Protection and Repatriation Act, or Osage law. If, however, artifacts or human remains are discovered during project-related activities, we ask that activities cease immediately and the Osage Nation Historic Preservation Office be contacted.

Should you have any questions or need any additional information please feel free to contact me at the number listed below. Thank you for consulting with the Osage Nation on this matter.

Jackie Rodgers

Jackie Rodgers Archaeologist Appendix D Public Notice

NOTE: To be published in the Cincinnati Enquirer in April 2019.

Federal Emergency Management Agency PUBLIC NOTICE Notice of Availability of the Draft Environmental Assessment For the City of Sharonville Flood Mitigation Project in Sharonville, Ohio

Environmental Assessment (EA) for the City of Sharonville Flood Mitigation Project (Application Number: FMA-PJ-05-OH-2017-015).

Interested persons are hereby notified that the Federal Emergency Management Agency (FEMA)/Department of Homeland Security (DHS) is proposing to assist in the funding of a project located in the City of Sharonville, Hamilton County, Ohio. An EA is being prepared to assess the potential impacts of each of the proposed alternatives on the human and natural environment in accordance with the National Environmental Policy Act (NEPA) of 1969 and the implementing regulations of FEMA. This notice also invites the public to provide comments on the proposed alternatives in accordance with Executive Order 11990 Protection of Wetlands, Executive Order 11988 Floodplain Management, and the National Historic Preservation Act (NHPA) of 1966. The draft EA provides information on potential impacts to historic and cultural resources from the proposed undertaking.

The draft EA is available for agency and public review and comment for a period of 30 days between [DATE] and [DATE]. The draft EA is available on FEMA's website at <u>https://www.fema.gov/recent-environmental-documents-public-notices-region-v</u>. The draft EA is also available on the City of Sharonville web site at: https://www.sharonville.org. Interested parties may request an electronic copy of the EA from either of those websites.

A hard copy of the draft EA is available for review at:

Sharonville City Hall 10900 Reading Road Sharonville, OH 45241

Written comments regarding this environmental action should be received no later than 5 p.m. on [DATE], by mail to Duane Castaldi, Regional Environmental Officer, FEMA Region V, 536 South Clark Street, 6th Floor, Chicago, IL 60605-1521, by email at <u>Duane.Castaldi@fema.dhs.gov</u> or phone (312) 408-5549. If no substantive comments are received by the above deadline, the draft EA and associated Finding of No Significant Impact (FONSI) will become final and be published by FEMA. Substantive comments will be addressed as appropriate in the final documents.

The public may request a copy of the final environmental documents from Duane Castaldi at the address listed above.

Appendix E Initial Notice (April 18, 2018)



CONFIRMATION

CITY OF SHARONVILLE 10900 READING RD CINCINNATI OH 45241-

					P	PO#		
ACCOUNT CIN-411249	<u>AD#</u> 0002858274	NET AMOUNT \$66.00	<u>Tax Amount</u> \$0.00	Total Amount \$66.00	Payment Method Invoice	<u>Paym</u>	ent Amount \$0.00	<u>Amount Due</u> \$66.00
Sales Rep jstrom		0	rder Taker: jstrom		Orc	der Created	<u>1</u> 04/12/2	018
Product			Plac	cement Classificat	ion	#Ins	Start Date	End Date
CIN-CP North West I	Market		CIN-Public	c/Legal Notices		1 (04/18/2018	04/18/2018
CIN-EN-Cincinnati.c	om		CINW-Publ	ic/Legal Notices		1 (04/18/2018	04/18/2018

* ALL TRANSACTIONS CONSIDERED PAID IN FULL UPON CLEARANCE OF FINANCIAL INSTITUTION

Text of Ad: 04/12/2018
PUBLIC NOTICE CITY OF SHARONVILLE, OHIO
The City of Sharonville, Ohio, in conjunction with the Ohio Emergency Management Agency (OEMA) and the Federal Emergency Management Agency (FEMA) has applied for a Unified Hazard Mitigation Program Project for the ac- quisition and demolition of the twin barrel bridge size cul- vert that runs under Main Street and the construction of a replacement bridge over the new free flowing storm creek.
Under the National Environmental Policy Act (NEPA), EO 11988 and EO 11990, public notice is required of any federal actions that affect floodplains or wetlands. All necessary permits will be obtained prior to construction and comple- tion of the project.
The objectives of the Unified Hazard Mitigation Program are to prevent future losses of lives and property, to imple- ment state or local Hazard Mitigation plans, to enable miti- gation measures to be implemented during immediate re- covery from disaster, and to provide funding for identified and approved hazard mitigation projects.
Public participation is encouraged. Interested parties and/or citizens are invited to comment on the project either via e-mail to Duane.Castaldi@fema.dhs.gov or in writing to:
Duane Castaldi, Regional Environmental Officer FEMA Region V 536 South Clark Street, 6th Floor Chicago, IL 60605 NWP,Apr18'18#2858274