



Final Environmental Assessment

Herbert Hoover High School

Kanawha County, West Virginia

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Prepared by

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List of Acronyms and Abbreviations

APE – Area of Potential Effect	NHPA – National Historic Preservation Act
ASTM – American Standard Testing Method	NPDES – National Pollutant Discharge Elimination System
BFE – Base Flood Elevation	NLEB – Northern Long-eared Bat
BMP – Best Management Practice	NRCS – Natural Resources Conservation Service
CAA – Clean Air Act	NRHP – National Register of Historic Places
CEQ – Council on Environmental Quality	OSHA – Occupational Safety and Health Administration
CFR – Code of Federal Regulations	PA – Public Assistance
CWA – Clean Water Act	PCS – Professional Construction Services
dB – Decibels	SBA – School Building Authority
EA – Environmental Assessment	SHPO – State Historic Preservation Officer
EC – Environmental Coordinator	SFHA – Special Flood Hazard Area
EDR – Environmental Data Resources	THPO – Tribal Historic Preservation Office
EIS – Environmental Impact Statement	TMDL – Total Maximum Daily Load
EO – Executive Order	USACE – United States Army Corps of Engineers
EPA – Environmental Protection Agency	USFWS – United States Fish and Wildlife Service
ESA – Environmental Site Assessment	USGS – United States Geological Survey
E&S – Erosion and Sedimentation	VOC – Volatile Organic Compounds
FEMA – Federal Emergency Management Agency	WVDE – West Virginia Department of Education
FIRM – Flood Insurance Rate Map	WVDEP – West Virginia Department of Environmental Protection
FONSI – Finding of No Significant Impact	WVDHSEM – West Virginia Division of Homeland Security and Emergency Management
FPPA – Farmland Protection Policy Act	WVDOH – West Virginia Division of Highways
HPI – Historic Property Inventory	WVDOT – West Virginia Department of Transportation
IPaC – Information for Planning and Conservation	
KCBOE – Kanawha County Board of Education	
LESA – Land Evaluation and Site Assessment	
NCA – Noise Control Act of 1972	
NEPA – National Environmental Policy Act	
NFIP – National Flood Insurance Program	
NGVD – National Geodetic Vertical Datum	

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SECTION ONE: BACKGROUND

1.1 Project Authority

The School Building Authority (SBA) in conjunction with the Kanawha County Board of Education (KCBOE) as a client, has applied through the West Virginia Division of Homeland Security and Emergency Management (WVDHSEM) to the Federal Emergency Management Agency (FEMA) Public Assistance (PA) grant program for funding assistance, under the Presidentially Declared Disaster FEMA-4273-DR-WV, for the reconstruction of Herbert Hoover High School. In accordance with FEMA Directive 108-1 and FEMA Instruction 108-1-1, this Environmental Assessment (EA) is being prepared pursuant to Section 102 of the National Environmental Policy Act (NEPA) of 1969, as implemented by the regulations promulgated by the President's Council on Environmental Quality (CEQ) in 40 Code of Federal Regulations (CFR) Parts 1500-1508. The purpose of the EA is to analyze the potential environmental impacts of the proposed project, and to determine whether to prepare an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI).

1.2 Location

The project location is in West Virginia, located in the unincorporated community of Elkview and in the town of Clendenin. Clendenin and Elkview are in the northeastern region of Kanawha County, in the central region of West Virginia with an approximate combined population of 2,395. Geographically, the town of Clendenin is located approximately 20 miles northeast of the City of Charleston and approximately 12 miles northeast of Elkview. A general location map of Clendenin and Elkview is included in **Appendix A**.

1.3 Purpose and Need

According to the United States Geological Survey (USGS), central West Virginia experienced intense convection storms along a stationary front on June 23, 2016. The stationary movement of the storms led many areas to receive up to 10 inches of rainfall within 24 hours, producing a 1,000-year storm event. The intense rainfall resulted in widespread flash flooding crippling the state with substantial damage to residences, commercial buildings, and public infrastructure. The areas that were impacted the greatest were primarily in the Greenbrier, Elk, and Gauley River watersheds (USGS, 2016). In Kanawha County, the Elk River watershed includes the communities of Clendenin and Elkview, each of which were significantly impacted by the flood event.

Statewide, the flood event damaged more than two dozen schools in 10 counties, including four schools in the Elk River Valley of Kanawha County: Clendenin Elementary School, Elkview Middle School, Bridge Elementary School, and Herbert Hoover High School. Clendenin Elementary School and Herbert Hoover High School were deemed eligible for replacement and relocation assistance under the FEMA PA grant program.

FEMA proposes to fund the replacement of Herbert Hoover High School with the construction of a new school at a location outside of the Special Flood Hazard Area (SFHA). The new school is needed to provide high school education in Elkview and Clendenin by providing a permanent

facility that is safe, accessible, and meets all applicable codes and standards. In accordance with federal laws and FEMA regulations, the EA process for a proposed federal action must include an evaluation of viable alternatives and a discussion of the potential environmental impacts. This EA was prepared in accordance with NEPA, 40 CFR Parts 1500-1508, and FEMA's implementing procedures for NEPA, including those in FEMA Instruction 108-1-1. As part of this NEPA review, the requirements of other environmental laws and executive orders were evaluated.

1.4 Existing Facility

Currently, the high school age students in Clendenin and Elkview are being served by portable, trailer classrooms on the property of Elkview Middle School, located at 5090 Elk River Road, Elkview, West Virginia. The portable classrooms are elevated above the SFHA and will continue to operate as the high school until a permanent facility is established. In September of 2018 the damaged Herbert Hoover High School, located at 5856 Elk River Road in Clendenin, was demolished. A map depicting the former location of the damaged Herbert Hoover High School is found in **Appendix A**. The building was approved for demolition under FEMA project PA-03-WV-4273-PW-00699. Demolition activities are separate from reconstruction activities and thus were independently evaluated for environmental compliance. Environmental and historic preservation review for the demolition of Herbert Hoover High School was concluded in June of 2017. The demolition activities met the criteria for a categorical exclusion under NEPA and therefore did not require the publication of an EA.

SECTION TWO: ALTERNATIVE ANALYSIS

To determine a path forward for the Herbert Hoover High School following the 2016 flood event, several options were evaluated including no action, new development offsite, and redevelopment on-site. Focus was placed on finding an alternative location that would allow for new development outside of the SFHA. Selection of possible site locations was pursuant to West Virginia Department of Education (WVDE) Policy 6200, which provides a comprehensive outline of considerations for site selection. The selection process required the cooperative effort of the county board, central office and school staff, planning committee, architect, and legal consultants. KCBOE solicited community involvement through meetings, local news outlets, and correspondence with community officials. Site selection criteria included, but was not limited to, development costs, availability of utilities, transportation and access to main transportation routes, attendance demographics, highways, distance, traffic congestion, potential exposure to flood risk, potential impacts to the human environment, proximity to hazardous contaminants, proximity to utility transmission lines, and acreage. Construction of a new Herbert Hoover High School facility requires approximately 40 to 50 acres of developable property for educational, athletic, and extracurricular facilities, in accordance with WVDE Policy 6200.

2.1 Alternative 1 – No Action

Under the No Action Alternative, redevelopment of Herbert Hoover High School would not be conducted. The high school age students of Clendenin, Elkview, and the surrounding community would continue to attend school in the portable classrooms located at Elkview Middle School. Since the former Herbert Hoover High School has been demolished, the site would be retained as open space in perpetuity.

2.2 Alternative 2 – Relocation of Herbert Hoover High School (Proposed Action)

Under the Proposed Action Alternative, Herbert Hoover High School would be replaced with a comparable facility at a new location. The Proposed Action would acquire 293.34 acres, to meet all the requirements under WVDE Policy 6200. The site is owned by the Trustees of the Elkview Baptist Church and is located on Frame Road/Route 43 in Elkview. A location map of the Proposed Action Alternative is in **Appendix A**.

The proposed site is a 293.34-acre parcel of primarily undeveloped, forested, moderate relief hillsides with one large valley through the center of the property associated with Givens Fork Creek. The surrounding land is characterized by forested properties to the north, east, and south. Frame Road lies to the west, along with a West Virginia Division of Highways (WVDOH) garage facility. Many streams are located on the proposed site associated with moderate topographic relief flowing south and discharging into Givens Fork, ultimately discharging into the Elk River. Access to the site is achieved by entering from Frame Road. Access to the northern extent of the property is achieved by following former dirt oil and gas access paths. Two natural gas pipelines are located adjacently to the north and west of the proposed site, using the same right of way. They are owned by Columbia Gas and Tennessee Gas and all construction associated with the school and ancillary facilities would be located outside of the utilities right of way. During the aftermath of the June 2016 flood events, the center of the property was utilized as a debris laydown area by state and federal authorities, which has since been remediated. Preliminary drawings and design plans are attached in **Appendix A**.

The Proposed Action for the subject property is to build an access road to accommodate ingress and egress to the northern extent of the property. It is anticipated that earth-moving heavy equipment would be utilized for construction activities such as, but not limited to: excavators for material handling, trenching, rough grading, and heavy lifting; backhoe loaders for digging and minor grading; bulldozers for earth moving grading activities; skid-steer loaders for moving material throughout the jobsite; trenchers for connecting to existing utilities; and common dump trucks for transporting large amounts of material throughout the jobsite. Precise construction and staging areas would be outlined in the final design. Prior to development, portions of the site would be elevated above the Base Flood Elevation (BFE) according to National Flood Insurance Program (NFIP) regulations and local floodplain ordinances, utilizing soil from an offsite location. Site development would be limited to approximately 93 acres and have cut/fill grading activities of nearly 2.3 million yards, to include 776 parking spaces, access roads, and three stormwater basins. Extracurricular and athletic facilities would include the following: one baseball field, one softball field, one football field, one track field, one soccer field, four tennis courts, and associated structures.

Coordinates for the center of the subject property are 38.454667 latitude, -81.478564 longitude. A street map depicting the subject property and a USGS topographic property boundary map are represented in **Appendix A**.

2.3 Alternative 3 – Redevelopment of Herbert Hoover High School

Under the Reconstruction Alternative, Herbert Hoover High School would be redeveloped on the existing site, located at 5856 Elk River Road, Clendenin, West Virginia. The site consists of approximately 23.42 acres of gently sloping land, located entirely within the SFHA. Coordinates

for the center of the subject property are 38.473558 latitude, -81.393217 longitude, as noted in the map in **Appendix A**.

Prior to development, the site would be elevated above the BFE according to NFIP regulations and local floodplain ordinances, utilizing soil from an offsite location. The design would accommodate the population needs and allow students to have a permanent learning facility. The subject property has been retained by KCBOE following the demolition of the damaged school and includes existing utility connections that could be used to accommodate a new facility. As the redevelopment would take place largely within the footprint of the damaged facility, there would be minimal impacts anticipated to environmental and cultural resources. Construction activities and staging areas would be within the property boundaries.

2.4 Alternatives Considered and Eliminated from Further Consideration

Two additional locations were evaluated during the relocation site selection process, conducted by Professional Construction Services (PCS). These sites met most, but not all, requirements outlined in the WVDE Police 6200. The following properties were dismissed due to preliminary cost analysis, location (proximity to student attendance zone), size, site access, topography, concerns with existing transmission utility lines, and transportation during flood events. The KCBOE Site Selection Narrative, attached in **Appendix B**, is available for further information.

Elkview Crossing Mall Property

The site consists of approximately 35 developed acres located adjacent to US Interstate 79, west of Exit 9-Elkview/Frame Road. The site is located at 38.457791 latitude, -81.4999491 longitude. The site is developed as a shopping center that includes various commercial outlets with multiple owners. The property is surrounded on three sides by Little Sandy Creek. During the June 2016 flood event, the access road to the center was destroyed resulting in the closure of the businesses for more than a year. Accordingly, the site does not meet state requirements based on size, as well as health and safety, due to entrapment concerns during repetitive flood events.

Arbuckle Lane Property

The site consists of approximately 325 acres of property along US Route 119-Elk River Road, South at Arbuckle Lane. Arbuckle Lane is located approximately one mile down river of the former Herbert Hoover High School location. Preliminary site investigations indicated the presence of high amounts of oil and gas wells with associated transmission lines, which eliminated the site from further consideration.

SECTION THREE: AFFECTED ENVIRONMENT AND CONSEQUENCES

Preliminary Screening of Assessment Categories

3.1 Physical Environment

3.1.1 Geology, Seismicity and Soils

The Town of Clendenin and community of Elkview are located entirely within the Appalachian Plateau Province of West Virginia, predominately in the Conemaugh Group and Allegheny Formation of the Pennsylvanian System. These rocks generally consist of cyclic sequences of shale, siltstone, sandstone, limestone, and coals (EDR Radius Report attached in **Appendix B**). The Natural Resources Conservation Service (NRCS) Web Soil Survey (**Appendix B**) was consulted for detailed soil information. While the general soil association varies, the dominant soil types are listed below:

- **Gilpin-Upshur complex 10-20, 20-30 percent, and steep (GSC3, GsD3, and GuE3, respectively)** – These soils are classified as steep, severely-eroded, well-drained soils derived from fine-loamy residuum weathered from interbedded sedimentary rock. Gilpin-Upshur soils typically are deposited on hillsides, ridges, or structural benches with a gradual to steep slope. Permeability is moderately high and available water capacity is low.
- **Gilpin-Upshur Silt Loams**
 - *20-30% (GpD)* – These soils are classified as silt loams derived from fine-loamy residuum weathered from interbedded sedimentary rock commonly occurring along ridges and structural benches. The soil is well-drained, has moderate permeability, low porosity, and does not flood.
 - *Steep (GRE)* – These soils are classified as silt loams derived from fine-loamy residuum weathered from interbedded sedimentary rock commonly occurring along ridges, hillsides, and structural benches. The soil is well-drained, has moderate permeability, low porosity, and does not flood, occurring on a slope of 30 to 35%.
 - *Very Steep (GRF)* – These soils are classified as silt loams derived from fine-loamy residuum weathered from interbedded sedimentary rock commonly occurring along ridges, hillsides, and structural benches. The soil is well-drained, has moderate permeability, low porosity, and does not flood, occurring on a slope greater than 35%.
- **Clymer-Dekalb complex variants** – These soils are characterized as primarily coarse loamy soils occurring on slopes originating from weathered sandstone and/or coarse loam derived from shale and siltstone. The soils are typically well-drained and have high permeability with low porosity.
- **Kanawha fine sandy loam, 0-8% and 3-8% slopes (KaA & KaB)** – These soils are

characterized by fine sandy loams occurring on slopes originating from fine-loamy alluvium associated with the weathering of sedimentary rock. The soils are typically well-drained and have high permeability and porosity. The soils are characterized as prime farmland.

- **Gilpin Silt Loam Variants** – These soils are characterized by silt loams derived from the erosion of fine-loamy residuum weathered from interbedded sedimentary rock. The soils have moderately high permeability. The soils are well-drained soils occurring on hillsides and ridges.
- **Hackers Silt Loam Variants** – These soils are characterized by silt loams derived from the erosion of fine-silty alluvium derived from shale and siltstone. The soils have moderately high permeability. The soils are well-drained soils occurring on low gradients and is characterized as prime farmland.
- **Laidig Channery Sandy Loam Variants** – These soils are characterized by channery loams derived from the erosion of fine-loamy colluvium derived from interbedded sedimentary rock. The soils have moderately low to high permeability. The soils are well-drained, occurring on moderate slopes, are non-hydric, and characterized as farmland of statewide importance.
- **Udorthents (UC)** – These soils are observed in the south center of the subject property. Udorthent soils are typically are deposits derived from sedimentary rocks located on flood plains, ridges, stream terraces, and hillslopes along a linear trend.
- **Vandalia Silt Loam (VaD)** – These soils are observed in the center valley of the property. VaD soils are clayey colluvium derived from sandstone and siltstone deposited along the toe slope of hillsides in a convex or linear trend. Vandalia Silt Loams are well-drained, moderately low to high permeability soils with no flooding.

The Farmland Protection Policy Act (FPPA – Public Law 97-98, 7 U.S.C. 4201) is intended to minimize the extent to which federal programs have on unnecessary and irreversible conversion of farmland to nonagricultural uses. Implementing procedures included in associated regulations found in Title 7 of the Code of Federal Regulations, Section 658, established the farmland conversion impact rating system to evaluate the impacts federal programs have on the conversion of farmland to nonagricultural uses. Projects are subject to FPPA requirements if they may irreversibly convert farmland (directly or indirectly) to nonagricultural use and are implemented or assisted by a federal agency.

Seismic activity in the Central Plateau region of West Virginia is negligible because the area is not tectonically active (USGS Seismic Hazards Map). Therefore, seismic concerns for all the alternatives are relatively low and will not be discussed further in this assessment.

Alternative 1 – No Action

The elevation of the site is approximately 620 feet National Geodetic Vertical Datum (NGVD). The Alternative 1 Base Map in **Appendix A** is the USGS WV, 7.5-minute topographic Blue Creek quadrangle. Local topography indicates that drainage in this area is accomplished by infiltration and surface run-off south towards the Elk River. The NRCS Web Soil Survey (**Appendix B**) of the

subject property was consulted for soil information. The general soil association for the subject property is comprised of Kanawha Fine Sandy Loam Variants. Geologically, the site is in Quaternary alluvium associated with the Elk River. Under the No Action Alternative there would be no impacts to geological features. Normal geomorphological erosional processes would occur on a long-term basis. There would be no FPPA compliance requirements at this site.

Alternative 2 – Relocation of Herbert Hoover High School (Proposed Action)

The elevation of the proposed site is approximately 630-1,190 feet NGVD. Local topography indicates that drainage in this area is accomplished by infiltration and surface run-off to Givens Fork, then towards the Elk River located south-southeast of the subject property. The Alternative 2 Base Map in **Appendix A** is the USGS WV, 7.5-minute topographic Blue Creek quadrangle.

The NRCS Web Soil Survey (**Appendix B**) of the subject property was consulted for soil information. The general soil association for the subject property is Gilpin-Upshur variants, Udorthents, and Vandalia Silt Loam.

- **Gilpin-Upshur complex 20-30% and steep (GsD3 and GuE3, respectively)** – These soils are observed on the northwestern portion of the property. GuE3 soils are classified as steep, severely eroded, well-drained soils derived from fine-loamy residuum weathered from interbedded sedimentary rock. Gilpin-Upshur soils typically are deposited on hillsides, ridges, or structural benches with a slope of 20 to 35%. Permeability is moderately high and available water capacity is low.
- **Gilpin-Upshur Silt Loams**
 - *20-30% (GpD)* – These soils are classified as silt loams derived from fine-loamy residuum weathered from interbedded sedimentary rock commonly occurring along ridges and structural benches. The soil is well-drained, has moderate permeability, low porosity, does not flood, and is farmland of statewide importance.
 - *Steep (GRE)* – These soils are classified as silt loams derived from fine-loamy residuum weathered from interbedded sedimentary rock commonly occurring along ridges, hillsides, and structural benches. The soil is well-drained, has moderate permeability, low porosity, does not flood, occurring on a slope of 30 to 35 percent, and is farmland of local importance.
 - *Very Steep (GRF)* – These soils are observed in the northeast central area of the Subject Property. GRF soils are classified as silt loams derived from fine-loamy residuum weathered from interbedded sedimentary rock commonly occurring along ridges, hillsides, and structural benches. The soil is well-drained, has moderate/high permeability, low porosity, rarely flooded, and occurs on slopes of 40 to 55%.
- **Udorthents (UC)** – These soils are observed in the south center of the Subject Property. Udorthent soils are typically are deposits derived from sedimentary rocks located on flood plains, ridges, stream terraces, and hillslopes along a linear trend.

- **Vandalia Silt Loam (VaD)** – These soils are observed in the center valley of the property. VaD soils are clayey colluvium derived from sandstone and siltstone deposited along the toe slope of hillsides in a convex or linear trend. Vandalia Silt Loams are well-drained, moderately low to high permeability soils with no flooding.

Potesta & Associates, Incorporated (Potesta) performed a geotechnical analysis report for the subject property dated October 4, 2018. The site design requires a substantial amount of cut/fill in the northern extent of the subject property. The recommendations are extensive and would impact soils both short and long-term. Therefore, the conclusions of the report are listed below:

Cut Slopes

The proposed grading plan for the campus development would result in the exposure of several cut slopes of varying heights. These would be composed of interbedded layers of rock such as shale, claystone, and sandstone. The final grading plan would consider benching configurations and slope toe offsets to minimize the potential for differential erosion and weathering of the exposed rock face. The long-term performance and stability of excavated cut slopes in rock throughout the site would be affected by several factors such as variable ranges in strength, degrees of weathering, and inherent geologic conditions. Once the final rock face is exposed, those weaker rock units such as claystone and siltstone would begin to weather and decompose (Potesta, Geotechnical Report for Herbert Hoover HS Site, Elkview, WV (0101-16-0477), July 11, 2018 Page 18). This degree of weathering is advanced or increases significantly in some instances once the face of the excavated slope is exposed to atmospheric conditions and seasonal weathering cycles. This continual and ongoing weathering would result in the accumulation of scale debris and rock fragments along the intermediate benches and toe offset bench. The interbedded nature and presence of varied rock types which would be exposed following these excavations would likely result in differential weathering of the exposure. This fact can be a long-term performance concern for areas of the slope where hard, blocky units (i.e., sandstone strata) are underlain by softer weathered claystone and/or shale strata. The incorporation of regularly placed benches to limit and catch loose debris and scale material from the slope is extremely important to the exposure's long-term performance, as well as the incorporation of a toe bench near the bottom of the slope. This offset would provide a barrier to protect the structures and other infrastructure from being impacted by material sloughing from the cut slope.

Special Site Concerns

The site soils were evaluated for stability during excavation and may require shoring, sloping, or benching during the construction process. The long-term performance of fill materials would be directly affected by the compaction efforts applied during the placement of the material. Subgrade areas within the construction site would be stripped of all organic materials prior to the placement of fill. Areas along the main stream and its tributaries would be prepared with coarse rock fill material which is permeable and would allow for the collection, conveyance and transmission of accumulated seepage and underflow. This effort would prevent saturation of the structural fill above.

Foundations

Shallow foundations are the recommended foundation system for the planned major structures at this site. The foundation would be installed a minimum of 36 inches below the surrounding exterior grade elevations. Design recommendations for two general foundation types are offered in this report, one for the planned school structure which would be supported directly on bedrock and a second for the press box and football facilities building which is situated within a proposed fill area. Those structures to be constructed on the structural fill areas are likely to experience a 1-2 percent self-consolidation, which would be immediate and short-term during the construction. Control joints would be incorporated between any slabs and support walls and the slabs should be heavily reinforced. Continuous foundations would also be reinforced to limit any differential settlement along their length.

Pavement Recommendations

Potesta recommends that all access roadways and parking lot surfaces be constructed immediately on the compacted and proof-rolled soil and compacted fill subgrade. Many areas of the planned parking lot would require the placement of varied thickness of site fill which are compacted to either 95 or 98 percent of the maximum Standard Proctor density, as determined from American Standard Testing Method (ASTM) D698 depending on the location. The in-place moisture would be limited to ± 2 percent of the soil material's optimum moisture content.

Area soils would be moderately disturbed during short-term construction and site grading activities. Soil loss may occur directly from construction activities or indirectly via high wind or rain events. To reduce soil erosion, appropriate Best Management Practices (BMPs) would be required at the construction location and would be identified through the West Virginia Department of Environmental Protection (WVDEP) National Pollutant Discharge Elimination System (NPDES) permitting process. BMPs may include an erosion and sedimentation (E&S) control plan utilizing silt fences, re-vegetation of disturbed soils, and maintenance of site soil stockpiles during construction to prevent soils from eroding and dispersing off-site. Erosion control fiber mesh would be utilized for disturbed and seeded lawn impact areas. All short-term soil storage would not occur within floodplain areas.

Minor long-term impacts associated with drainage at the site are anticipated due to the increase in impervious surfaces which would diminish natural soil infiltration. Stormwater drainage at the proposed site would be accomplished via storm drain systems that would reroute water offsite and downstream towards the Elk River. Based on the Hydrology Study completed by TERRADON Corporation, the peak run off for a 25-year storm would be reduced from 283.38 cubic feet per second pre-development, to 129.26 cubic feet per second post-development. The full hydrology study can be found in **Appendix B**. Excavation depths at the site would vary according to the area of grading and construction. Performance of soils, rock staging, placement, and compaction activities would be pursuant to the geotechnical recommendations from Potesta's final geotechnical report found in **Appendix B**. Provided that the recommendations made in the geotechnical report were followed entirely, minor long-term impacts to soils and geology would be anticipated.

Subject to FPPA requirements, a consultation was conducted with NRCS, with the determination that the project does convert prime or other important farmland and is subject to the FPPA, thus requiring completion of AD-1006 by the federal agency. FEMA completed the AD-1006 form, requested a land evaluation on January 31, 2019, and received the land evaluation response from NRCS on February 11, 2019. The Proposed Action Alternative converts 0 acres of Prime Farmland and 130.6 acres of statewide or local important farmland. The relative value of farmland to be converted (on a scale of 0 to 100) was rated 30, while the total site assessment points equaled 56 (out of 160). For projects where the total is 160 or greater (out of 260), federal agencies must consider alternative actions that could reduce adverse impacts. At this site, the total was 86. Thus, the completion of AD-1006 meets the compliance requirements for FPPA. The final Land Evaluation and Site Assessment (LESA) form and correspondence with NRCS can be found in **Appendix C**.

Alternative 3 – Redevelopment of Herbert Hoover High School

The elevation of the site is approximately 620 feet NGVD. The Alternative 3 Base Map in **Appendix A** is the USGS WV, 7.5-minute topographic Blue Creek quadrangle. Local topography indicates that drainage in this area is accomplished by infiltration and surface run-off towards the Elk River to the south. The NRCS Web Soil Survey (**Appendix B**) of the subject property was consulted for soil information. The general soil association for the subject property is comprised of Kanawha Fine Sandy Loam Variants. Geologically, the site is in Quaternary alluvium associated with the Elk River. There would be no FPPA compliance requirements at the site.

Soil loss would occur directly from construction activities or indirectly via high wind or rain events. To reduce soil erosion, appropriate BMPs would be required at the construction location and would be identified through the WVDEP NPDES permitting process. BMPs may include an E&S control plan utilizing silt fences, re-vegetation of disturbed soils, temporary stormwater management, and maintenance of site soil stockpiles during construction to prevent soils from eroding and dispersing off-site. Erosion control fiber mesh would be utilized for disturbed and seeded lawn impact areas. All short-term soil storage would not occur within floodplain areas.

Due to the previous development, the site is impacted by a lack of natural soil infiltration and stormwater would be managed through an improved stormwater system. Although construction activities would create a moderate short-term impact to on-site soils, appropriate BMPs would mitigate effects from the elevation of the site. The site design would incorporate stabilization techniques to minimize impacts to the added soils and increase long-term resiliency. Therefore, minimal impacts to geology or soils would be expected on a long-term basis.

3.1.2 Water Resources and Water Quality

The Clean Water Act (CWA), as amended in 1977, established the basic framework for regulating discharges of pollutants into waters of the United States. In addition, Executive Order (EO) 11990 (Protection of Wetlands) requires federal agencies to avoid, to the extent possible, adverse impacts of wetlands.

Alternative 1 – No Action

Under the No Action Alternative, no adverse impacts to water resources near the former Herbert Hoover High School would occur.

Alternative 2 – Relocation of Herbert Hoover High School (Proposed Action)

The proposed project is in a traditional hydrogeological system; meaning that surface topography presumably is indicative of the direction of groundwater flow in the absence of manmade systems. Local topography indicates that drainage in this area is accomplished by infiltration and surface run-off to Givens Fork, ultimately migrating south to the Elk River. Three USGS wells are located southeast of the proposed site along the Elk River floodplain. According to the United States Environmental Protection Agency (EPA), the nearest waterway to the site is Givens Fork. Givens Fork currently does not have any data or assessment information available and there have not been any Total Maximum Daily Loads (TMDL) established. The nearest waterway with assessment information is the Elk River, located south of the proposed site. The Elk River is listed as having metal, bacteria, and microbe pollution. The Elk River has TMDLs for Aluminum, Iron, Selenium, pH, and fecal coliform. The Water Quality Assessment Status for 2010 indicated that the river is impaired by fecal coliform and iron. Narrow Branch, located to the northeast of the proposed site, is listed as polluted with bacteria/other microbes and metals. Cleanup Plans were initiated in 2012 for both pollutants. For iron and fecal coliform, NPDES permitting has been implemented for this stream.

TERRADON Corporation performed an Aquatic Resource Report for the subject property and is currently in the application process to obtain United States Army Corps of Engineers (USACE) 404 Individual Permitting and WVDEP 401 Permitting. The two permitting processes are in the final stages awaiting public comment and completion of the NEPA EA to be finalized. TERRADON's professional opinion in coordination with state and federal regulatory agencies, delineated a total of 20,475.87 feet of potential Jurisdictional Waters of the U.S. within the Subject Property boundary. Of the streams, 4,193.66 feet was determined to be perennial, 2,146.03 feet was determined to be intermittent, and the remaining 14,136.18 feet determined to be ephemeral. An approved Preliminary Jurisdictional Determination letter was received on June 26, 2018 for the Subject Site. Please see **Appendix B**, for the Aquatic Resource map for the project site referenced as LRH-2018-323-ELK-Givens Fork with Jurisdictional Determination Results from the USACE. Also see **Appendix B** for Approved Preliminary Jurisdictional Determination Letter.

The construction of the high school facility planned at this location would result in impacting approximately 4,838.5 linear feet of Givens Fork and associated unnamed tributaries. Culverts would be installed where necessary, in collaboration with grading of cut and fill material to prepare a building site large enough to accommodate the proposed high school facility and associated athletic fields. A rock core drain has been proposed to be installed within the existing stream channel of an unnamed tributary to Givens Fork. This is a natural design element intended to not only protect the associated fill necessary to construct the site, but also allow for the disturbed stream bed to flow within the rock core in a subsurface state. Once complete, the proposed construction would mitigate impacts on the aquatic environment of Givens Fork, using stormwater collection basins with passive dewatering riser pipes. These structures would decrease the amount of fast-moving stormwater run-off from reaching Givens Fork, by retaining the collected stormwater and releasing it over time by passive dewatering. The collection basins

would reduce the amount of sediment carried by the stormwater from reaching Givens Fork by increasing retention time and subsequent settling.

Currently, the EPA has established a goal to achieve no net loss of wetlands, despite urban/rural growth due to construction projects of various types. Because the Herbert Hoover High School proposed construction site would require cut and fill placement to create a location large enough conducive to the project, on-site impact to aquatic resources is unavoidable. Therefore, the applicant has proposed to purchase mitigation bank credits to provide compensatory mitigation for the permanent loss of aquatic resources/functions. The compensatory mitigation plan has been approved by USACE and involves purchasing credits from the West Virginia Stream Mitigation Bank at a cost of \$2,982,536 for 3728.17 credits. The Oxbow Mitigation Bank in Ritchie County has been identified as a secondary service area that can accommodate the purchase of the credits and services the Little Kanawha River watershed rather than the Elk River watershed. Mitigation credits would be purchased after the purchase of the property.

The project may have moderate short-term impacts on surface waters during the construction process. The stormwater drainage system would consist of both sheet and sub-surface drainage components leaving the subject property to the south. The contractor would implement BMPs during construction to limit impacts to waterways. Examples of BMPs may include but are not limited to: soil erosion monitoring at the project site; temporary silt fencing; and staging of construction equipment in existing developed areas, such as paved parking lots. If project activities include the stockpiling of soil or fill on-site, the contractor would cover these soils to help prevent fugitive dust and erosion into stormwater pathways. Following construction, any bare soils would be vegetated to prevent future soil erosion. The site design requires a high amount of cut/fill grading activities which would impact groundwater on a short-term basis during construction. A Construction Stormwater General Permit and Notice of Intent is required by the WVDEP and would be submitted prior to construction activities.

Long-term impacts due to site development would be minimal once the site is developed and appropriate mitigation procedures followed, as the design is anticipated to minimize all if any aquatic resource impact. The foundation depths and grading for site development would vary according to geotechnical investigations and shallow foundations were recommended. Therefore, impacts to groundwater are anticipated to be minimal on a short-term basis during construction activities in the central and southern extent of the subject property. However, permanent change to the topography to the northern extent of the property would result in long-term changes to hydrogeology of groundwater migration. Please find the geotechnical report attached in **Appendix B**.

Alternative 3 – Redevelopment of Hoover High School

Under the Reconstruction Alternative, redevelopment of Hoover High School at the existing location may have temporary short-term impacts to downstream surface waters due to potential soil erosion during construction activities. Stormwater would be managed at the site by an existing drainage system which would be modified during construction activities to meet requirements of the new development. To reduce impacts to surface water, the applicant would implement appropriate BMPs, such as installing silt fencing during construction, and revegetation of bare soils following construction. Minor impacts to surface water would be anticipated both short- and long-

term due to the site’s proximity to the Elk River and the increase of soil at the site. Changes to groundwater quality would not be anticipated as the development would not increase the amount of impervious surface.

3.1.3 Floodplain Management (Executive Order 11988)

EO 11988 (Floodplain Management) requires that a federal agency avoid direct or indirect support of development within the 100-year floodplain, whenever there is a practicable alternative. FEMA’s regulations for complying with EO 11988 and 11990 are promulgated in 44 CFR Part 9. FEMA uses Flood Insurance Rate Maps (FIRMs) to identify properties located within the SFHA. FIRM maps for all alternative sites are attached in **Appendix A**.

Floods and flood-related damage are common in Kanawha County. Kanawha County experienced twenty-two federally declared flood related disasters between 1967 and 2019, more than half of which occurred since 2000. Kanawha County participates in the NFIP and floodplain development permits would be required at all sites prior to beginning any work within the 100-year floodplain. Kanawha County’s current Floodplain Ordinance was adopted in February 2008. As all alternatives are located either partially or completely within the SFHA, the Eight-Step Planning Process for Floodplains and Wetlands has been included below.

Eight-Step Planning Process for Floodplains and Wetlands	
<p>Step 1: Determine whether the Proposed Action is located in a wetland and/or the 100- year floodplain, or whether it has the potential to affect or be affected by a floodplain or wetland.</p>	<p>Project Analysis: According to FIRM Panel 54039C0285E, effective 2/6/2008, the entire No Action Alternative is located within the 100-year floodplain (Zone AE).</p> <p>According to FIRM Panel 54039C0280E, effective 2/6/2008, the majority of the Proposed Action Alternative is located outside the SFHA. A portion of the center of the property is within Zone A currently, but would be filled in and elevated above the SFHA.</p> <p>According to FIRM Panel 54039C0285E, effective 2/6/2008, the entire Reconstruction Alternative is located within the 100-year floodplain (Zone AE) and the Regulatory Floodway.</p>
<p>Step 2: Notify public at earliest possible time of the intent to carry out an action in a floodplain or wetland, and involve the affected and interested public in the decision-making process.</p>	<p>Project Analysis: An initial Public Notice regarding the potential for work to occur within the floodplain was published following the declaration of DR-4273-WV, in July 2016.</p>
<p>Step 3: Identify and evaluate practicable alternatives to locating the Proposed Action in a floodplain or wetland.</p>	<p>Project Analysis: The following alternatives were considered in selecting the Proposed Action:</p> <p><i>No Action Alternative:</i> Under the No Action Alternative, redevelopment of Herbert Hoover High School would not be conducted. The high school age students of the Town of Clendenin and Elkview would continue to attend</p>

	<p>school at the portable classrooms located at Elkview Middle School.</p> <p><i>Proposed Action Alternative:</i> Under the Proposed Action Alternative, Herbert Hoover High School would be replaced with a comparable facility at a new location, with the school entirely outside of the SFHA. Fill would be used to elevate the portion of the property within the SFHA above BFE.</p> <p><i>Reconstruction Alternative:</i> Under the Reconstruction Alternative, the demolished Herbert Hoover High School would be redeveloped on the existing site, elevated above the BFE. However, all points of ingress and egress would be within the 100-yr floodplain.</p> <p>The Proposed Action Alternative is the best option to locate the new school facility and access road entirely outside the SFHA. The rest of the 8-step will address the Proposed Action Alternative.</p>
<p>Step 4: Identify the full range of potential direct or indirect impacts associated with the occupancy or modification of floodplains and wetlands, and the potential direct and indirect support of floodplain and wetland development that could result from the Proposed Action.</p>	<p>Project Analysis: A portion of the property is within Zone A, but development of the site would include grading and fill of the creek, elevating the property above BFE.</p>
<p>Step 5: Minimize the potential adverse impacts from work within floodplains and wetlands (identified under Step 4), restore and preserve the natural and beneficial values served by wetlands.</p>	<p>Project Analysis: Work would occur in coordination with the local floodplain administrator and follow conditions found in coordination with USACE. The entire school facility would be constructed outside the SFHA after grading and fill activities.</p>
<p>Step 6: Re-evaluate the Proposed Action to determine: 1) if it is still practicable in light of its exposure to flood hazards; 2) the extent to which it will aggravate the hazards to others; 3) its potential to disrupt floodplain and wetland values.</p>	<p>Project Analysis: The Proposed Action remains practicable based on reducing the exposure of risk at the new school location and the minimal (if any) increase to flood elevations nearby.</p>
<p>Step 7: If the agency decides to take an action in a floodplain or wetland, prepare and provide the public with a finding and explanation of any final decision that the floodplain or wetland is the only practicable alternative. The explanation should include any relevant factors considered in the decision-making process.</p>	<p>Project Analysis: Public notice of the Proposed Action Alternative will be given as a function of this EA, informing the public of a potential FEMA funded action, that would occur partially within the SFHA.</p>
<p>Step 8: Review the implementation and post-implementation phases of the Proposed Action to ensure that the requirements of the EOs are</p>	<p>Project Analysis: This step is integrated into the NEPA process and FEMA project management and oversight functions.</p>

fully implemented. Oversight responsibility shall be integrated into existing processes.	
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Alternative 1 – No Action

Under the No Action Alternative, no additional impacts to the floodplain would occur. The high school-age students of the Elkview, Clendenin, and surrounding communities would continue to attend school at the temporary classrooms located at Elkview Middle School. Although these temporary classrooms are elevated, they are still located within the SFHA. The former Herbert Hoover High School has already been demolished, and if a new school is not constructed on the site, the land would be retained as open space. Based on the review, Alternative 1 would have no effect on the floodplain at the original school site. However, it would have a moderate long-term impact on the floodplain, as the children would continue to attend school at temporary classroom facilities in Elkview within the floodplain.

Alternative 2 – Relocation of Herbert Hoover High School (Proposed Action)

Under the Proposed Action Alternative, most of the development would occur outside of the floodplain. The best available data from FIRM Map 54039C0280E, dated 02/06/2008 (**Appendix A**) shows a portion of the developable parcel within Zone A, the 100-year floodplain. Development of the site would include grading and fill of the creek, elevating the property above BFE. The project would be required to be permitted by the local floodplain administrator for the placement of fill, which is referenced under Kanawha County Floodplain Ordinance Article 6.1.E. An initial Public Notice regarding the potential for work to occur within the floodplain and/or wetlands was published following the declaration of DR-4273-WV. Additional notice is being provided as part of this EA.

Due to the topography of the area in and around Clendenin, there are limited viable options to construct a school and the associated infrastructure outside of the SFHA. Although the project would include limited development within SFHA, the preceding Eight-Step analysis determines it is still the most practicable alternative to relocate the high school students to a facility that will be located entirely outside of the SFHA.

Based on the Eight-Step review conducted for Alternative 2, there would be a minor impact on floodplain values. The impact would not be significant, as the fill and grading of the site would elevate it entirely outside the SFHA and coordination with the local floodplain administrator and USACE would occur to mitigate any impacts.

Alternative 3 – Redevelopment of Hoover High School

Under the Reconstruction Alternative, best available data from FIRM Map 54039C0285E, dated 02/06/2008 (**Appendix A**) shows the former Herbert Hoover High School parcel is within Zone AE and Shaded Zone X, the 100-year and 500-year floodplain. The redevelopment of the school would require a change in the current elevation to meet the criteria of FEMA and NFIP Codes and Standards, potentially resulting in a change to the flood risk of adjacent properties. Fill would be brought to the site to elevate the reconstructed school outside of the SFHA, however support facilities, such as parking lots, may still be located within the SFHA. All work would be completed to construct the school building in accordance with NFIP Codes and Standards. The site is limited

to a single access road, Elk River Road South, that also has varying levels of flood risk within the immediate area. While Alternative 3 would be minimally impacted by flood events due to the elevation of the school above the BFE, the development could moderately impact flood risk to surrounding properties. There is no potential to construct additional routes of ingress and egress due to the school's proximity to the Elk River.

3.1.4 Air Quality

The Clean Air Act (CAA) requires that states adopt ambient air quality standards to protect the public from potentially harmful amounts of air pollutants. Primary and secondary air quality standards are established by the EPA. Primary air quality standards protect the public health, including the health of sensitive populations, such as people with asthma, older adults, and children. Secondary air quality standards protect public welfare by implementing and promoting healthy ecosystems, preventing poor visibility, and preventing damage to crops and buildings. The EPA has set national ambient air quality standards for six of the following criteria pollutants: Ozone (O₃), Nitrogen Dioxide (NO₂), Carbon Monoxide (CO), Sulfur Dioxide (SO₂), Inhalable Particulate Matter (PM_{2.5} and PM₁₀), and Lead (Pb). WVDEP Division of Air Quality (DAQ) enforces and monitors air quality standards in the State of West Virginia. WVDEP monitors the above-mentioned pollutants, meteorology, and Air Toxic Pollutants such as metals, carbonyls, and Volatile Organic Compounds (VOCs). According to the EPA and WVDEP, Kanawha County is classified as an attainment area, defined as an area that meets National Ambient Air Quality Standards.

Alternative 1 – No Action

Under the No Action Alternative, no impacts to air quality would result from the portable classrooms remaining at Elkview Middle School.

Alternative 2 – Relocation of Herbert Hoover High School (Proposed Action)

Under the Proposed Action Alternative, negligible short-term impacts to air quality would occur during construction activities. To reduce impacts, contractors would be required to wet down construction areas as needed to mitigate fugitive dust. Emissions from fuel-burning engines (e.g. heavy machinery and earthmoving machinery) could also temporarily increase the levels of some of the criteria pollutants, such as CO, NO₂, O₃, PM₁₀, and noncriteria pollutants such as VOCs. To mitigate these emissions, BMPs such as management of engine run times and maintenance BMPs for fuel burning equipment would be implemented. Due to the development size, localized area of grading, and the limited duration of construction activities, Air Quality Permitting through WVDEP is not anticipated. Marketable timber would be removed from the property and sold, while unmarketable timber and wood debris would be burned on-site in accordance with WVDEP and Division of Forestry regulations. An application to conduct open burning of land clearing debris must be submitted and approved by the WVDEP DAQ before burning would be permitted. Long-term impacts to local air quality near the new school site, including from increased traffic and utility usage, would be negligible.

Alternative 3 – Redevelopment of Herbert Hoover High School

To reduce impacts during construction, the contractors would be required to wet down construction areas as needed to mitigate fugitive dust. Emissions from fuel-burning engines could also temporarily increase the levels of some of the criteria pollutants, such as CO, NO₂, O₃, PM₁₀, and noncriteria pollutants such as VOCs. To mitigate these emissions, BMPs such as management of engine run times and maintenance BMPs for fuel burning equipment would be implemented. Due to the development size and grading impact, Air Quality Permitting through WVDEP is not anticipated. Short-term air quality impacts during construction would be anticipated to be negligible. Over the long-term, impacts to air quality would be negligible, no greater than they were when the school previously operated.

3.2 Biological Environment

3.2.1 Terrestrial and Aquatic Environment

Alternative 1 – No Action

Under the No Action Alternative, there would be no impacts to the terrestrial and aquatic habitats or species.

Alternative 2 – Relocation of Herbert Hoover High School (Proposed Action)

During TERRADON Corporation's site reconnaissance, varying plant species were observed. Dominant plants observed during the reconnaissance survey were similar throughout the site. Dominant Upland Tree Vegetation is composed of Red Maple (*Acer rubrum*), Sugar Maple (*Acer saccharum*), Southern Red Oak (*Quercus falcata*), Northern White Oak (*Quercus alba*), Black Walnut (*Juglans nigra*), Virginia Pine (*Pinus virginiana*), Black Locust (*Robinia pseudoacacia*), Pignut Hickory (*Cara glabra*), Mockernut Hickory (*Carya alba*), American Beech (*Fagus grandifolia*), American Basswood (*Tilia Americana*), American Elm (*Ulmus Americana*), and Tulip Poplar (*Liriodendron tulipifera*). Dominant herbaceous plants are composed of Japanese Honeysuckle (*Lonicera japonica*), Deer Tongue (*Dichantheium clandestinum*), American Vetch (*Vicia americana*), Eastern Poison Ivy (*Toxicodendron radicans*), and Common Milkweed (*Asclepias syriaca*).

Per the West Virginia Division of Natural Resources, there are over 600 species of animals in the state. This includes more than 57 species of reptiles and amphibians, 70 wild mammals, 178 species of fish and 300 species of bird. Commonly observed species in the area include the Eastern Cottontail (*Sylvilagus floridana*), Common Raccoon (*Procyon lotor*), Virginia Opossum (*Didelphis virginiana*), Eastern Gray Squirrel (*Sciurus carolinensis*), Deer Mouse (*Peromyscus maniculatus*), White-tailed Deer (*Odocoileus virginianus*), Pileated Woodpecker (*Dryocopus pileatus*), Rock Pigeon (*Columba livia*), American Crow (*Corvus brachyrhynchos*), Wild Turkey (*Meleagris gallopavo*), Eastern box turtle (*Terrapene c. carolina*), and the Eastern garter snake (*Thamnophis s. sirtalis*). Additional transient species may be observed in the area.

Construction activities would take place in both forested and aquatic areas. During construction activities, the applicant would employ temporary fences around the tree line to prevent any impact to other forested areas and prevent encroachment of personnel and construction equipment to negate further deforestation or damaging activities.

Impacts to terrestrial species resulting from the Proposed Action Alternative are expected to be minor, on the scale of the community as a whole. Mobile species could relocate to nearby areas not affected by construction. Non-mobile species could be killed in areas cleared or filled. Loss of aquatic habitat would be limited to 4,838.5 linear feet, and loss of habitat function would be mitigated through the purchase of secondary service area mitigation bank credits. Compensatory mitigation credits can be purchased from mitigation banks, which are aquatic resource areas established to offset the impacts to aquatic resources through the sale of credits.

Alternative 3 – Redevelopment of Herbert Hoover High School

Under the Reconstruction Alternative, most of the subject property would be elevated using clean fill from an offsite location which would eliminate most of the existing vegetation. Due to the previous development on the site, existing vegetation is minimal and loss of both plant and animal species would be negligible. While there would be no work in water, the most likely potential negative impact could result from a temporary runoff of materials into the Elk River, which may degrade water quality and negatively impact aquatic species. The contractor would include appropriate BMPs to limit impacts to the river during construction; therefore, impacts would be minimal.

3.2.2 Wetlands (Executive Order 11990)

The USACE regulates the discharge of dredged or filled material into waters of the U.S., including wetlands, pursuant to Section 404 of the CWA. In addition, EO 11990 (Protection of Wetlands) requires federal agencies to avoid, to the extent possible, adverse impacts on wetlands that may result from federally funded actions.

Alternative 1 – No Action

Under the No Action Alternative, no impacts to wetlands would occur.

Alternative 2 – Relocation of Herbert Hoover High School (Proposed Action)

A site-specific analysis was conducted to identify the presence or absence of wetlands within the proposed site. TERRADON Corporation was contracted to complete a wetland delineation for the 293.34-acre project site from August 11-15, 2017. The wetland delineation was performed in accordance with appropriate USACE Section 404 wetland delineation procedures. No wetlands were identified during the delineation and one small wetland was listed approximately ¼ mile away from the Subject Property. Therefore, under the Proposed Action Alternative, no impacts to wetlands would occur.

Alternative 3 – Redevelopment of Herbert Hoover High School

There are no wetlands mapped on the subject property and a wetland delineation is not required due to the previous development on site. Under the Reconstruction Alternative, no impacts to wetlands would occur.

3.2.3 Threatened and Endangered Species

Section 7 of the Endangered Species Act requires any federal agency that funds, authorizes or carries out an action ensure that their action is not likely to jeopardize the continued existence of any endangered or threatened listed species or result in the destruction or adverse modification of designated critical habitats.

Alternative 1 – No Action

Under the No Action Alternative, no impacts to listed species, their habitats, or designated critical habitat would occur.

Alternative 2 – Relocation of Herbert Hoover High School (Proposed Action)

An Official Species List from the U.S. Fish and Wildlife Service's (USFWS) Information for Planning and Conservation (IPaC) tool, dated February 7, 2019, revealed that the project is located within a potential area of occurrence for fourteen (14) threatened and endangered species. Several species that were returned on the IPaC report were immediately removed from consideration after validating the report against the 'Status and Distribution of Threatened and Endangered Species' document on the USFWS West Virginia Field Office website. The USFWS determined that ten federally-listed species could occur in the project area and may be affected by project construction. These are the endangered Indiana bat (*Myotis sodalis*); gray bat (*Myotis grisescens*); Virginia big-eared bat (*Corynorhinus townsendii virginianus*); clubshell (*Pleurobema clava*), northern riffleshell (*Epioblasma torulosa rangiana*), pink mucket pearl mussel (*Lampsilis abrupta*), rayed bean (*Villosafabalis*), and snuffbox (*Epioblasma triquetra*) mussels; and diamond darter (*Crystallaria cincotta*); and the threatened northern long-eared bat (*Myotis septentrionalis*) (NLEB). This project is in close proximity to occupied critical habitat for the diamond darter for the length of the Elk River, within the towns' boundaries.

The Proposed Action Alternative site is comprised primarily of forested hillside with minor cleared areas associated with site access. Various perennial, intermittent, and ephemeral streams were located throughout the parcel. Should the Proposed Action proceed, approximately 90 acres of forested area would have to be cleared to allow for development. Site grading activities would initiate on the southern extent of the subject property along the site access road transgressing north to the site development area resulting in 4,838.5 linear feet of impacted stream that would be discarded through pipe culverts and storm basins, during cut/fill procedures. Areas not developed would be covered with vegetation to reduce erosion of sediment. Some site run-off would be diverted via stormwater control structures to stormwater retention basins mentioned above to allow solids to settle from the surface water before controlled discharge to unnamed tributaries and Givens Fork. The remainder of the stormwater would be conveyed with the use of culverts and drop box inlets to the unnamed tributaries.

TERRADON Corporation submitted to the USFWS Field Office for a project review of the proposed development plans for the site. TERRADON Corporation received a response on April 19, 2018, which indicated that the area may contain suitable habitat for the Indiana Bat and NLEB. The project does not fall within any of the Indiana bat or NLEB known-use areas but would remove 17 or more acres of potential Indiana bat summer habitat. As a result, the USFWS required the completion of a bat survey. TERRADON Corporation contracted Copperhead Environmental

Consulting (Copperhead) to conduct acoustic presence/probable absence surveys, develop avoidance measures, and coordinate the results with USFWS for listed bat species on the property. Copperhead submitted a Summer 2018 Acoustic Bat Survey for the Proposed Action Alternative to the USFWS dated July 11, 2018. Copperhead identified two NLEB call files during the survey period, and no call files for the Indiana Bat. The full survey can be found in **Appendix B** of this report.

A Concurrence Form for Myotis Bat Survey Reports was issued in response dated July 16, 2018. As indicated in the Acoustic Bat Survey, two NLEB were detected during the investigation. The proposal was indicated to not be within 0.25 miles of known NLEB hibernacula and would not cut/destroy any occupied maternity trees during pup season. USFWS concluded that no Indiana bats are expected to be adversely affected by the project and that any take of NLEB associated with this project is exempt under the USFWS 4(d) rule.

In a Section 7 consultation letter, dated April 4, 2019, FEMA determined that the proposed project *may affect, but is not likely to adversely affect* the Indiana bat, Gray bat, Virginia big-eared bat, clubshell, northern riffleshell, pink mucket pearl mussel, rayed bean, and snuffbox mussel. Any take of NLEB associated with this project is exempted under the USFWS 4(d) rule, and no conservation measures are required. FEMA determined that the proposed project *may affect, but is not likely to adversely affect* the Diamond Darter and Diamond Darter Critical Habitat. Please see all correspondence attached in **Appendix C** of this report. USFWS concurred with this determination on May 16, 2019, with the following conditions:

An Environmental Coordinator (EC) will be secured to conduct turbidity monitoring onsite to ensure that the proposed erosion and sedimentation structures are working correctly. If increased turbidity is observed the Environmental Coordinator will be able to immediately implement measures to avoid further impacts. The EC is a qualified West Virginia mussel surveyor and will coordinate sediment monitoring as described in the April 24, 2019, Memorandum of Understanding. This includes, but is not limited to, pre-construction turbidity monitoring of Givens Fork, inspecting erosion and sedimentation control measures during construction activities, turbidity monitoring of Givens Fork at least once every seven calendar days and after any storm event of more than 0.5 inches in a 24-hour period, ensuring that compromised erosion and sedimentation control measures are promptly repaired, and quarterly reports of turbidity monitoring and inspections submitted to the Service.

The applicant has also developed enhanced erosion and sedimentation control measures exceeding the standard requirements of their National Pollutant Discharge Elimination System permit. As stated in correspondence dated April 9 and May 7, 2019, these measures will include:

- Installing erosion and sedimentation control measures prior to any tree removal;
- Using super silt fence in place of normal belted silt fence;
- Incorporating an additional diversion channel along Givens Fork that uses a multi-layered approach of silt fence, diversion channel, a subsurface pipe drain, and another row of silt fence;

- Having periodic stone check dams in the additional diversion channel that will drain to a temporary sediment basin prior to discharging into Givens Fork;
- During mass fill operations, using a moving temporary sediment basin that will empty into another settling basin, to provide a double filter of suspended solids;
- Emptying sediment traps and inlet protection devices when half the wet storage capacity has been filled;
- Removing sediment from behind sediment fence when it becomes 0.5-foot-deep, and repairing the sediment fence to maintain a barrier;
- Mulching all disturbed areas should grading be discontinued for more than 7 days;
- Seeding and mulching disturbed areas within 7 days of construction completion;
- Establishing permanent vegetative cover for site stabilization, which is estimated to take 36 months.

Alternative 3 – Redevelopment of Herbert Hoover High School

Under the Reconstruction Alternative, all construction activities, including staging, would take place within the developed lot. There would be no disturbance to existing trees or other ground cover. Although the site is adjacent to the Elk River, which is known habitat for several listed mussel species and critical habitat for the diamond darter, there is a heavily-vegetated area separating the parcel from the river that would provide protection from sedimentation. Additionally, BMPs, such as silt fencing, would be implemented during construction activities to avoid negative impacts to water quality. Therefore, this alternative would likely result in a *may affect, but not likely to adversely affect* federally listed species or critical habitat determination; however, FEMA has not consulted with USFWS about this alternative.

3.3 Hazardous Materials

TERRADON Corporation completed a Phase I Environmental Site Assessment (ESA) for the Proposed Action Alternative site. A Phase I ESA consists of an onsite reconnaissance and review of Environmental Data Resources (EDR). An EDR report consists of radius maps, historical aerial photographs, historical topographic maps, historical Sanborn maps, city directory information, assessor information, environmental liens, National Wetland Inventory maps, floodplain information, historical well data, and other information used to characterize potential environmental hazards.

The Phase I ESA was performed in conformance with the scope and limitations of ASTM E 1527-13 and in general accordance of the agreement between KCBOE and TERRADON Corporation. After review of the EDR report and geographic locations of potential environmental concerns, one recognized environmental concern was identified on the Proposed Action site boundary. The recognized environmental concern is the Demolition Debris Laydown area associated with FEMA under Reclaim Company, LLC. Due to the nature of the debris and unknown materials present, the site was considered to be a recognized environmental concern. Due to the nature of the debris and unknown materials present, TERRADON Corporation recommended that a Phase II Environmental Site Assessment be conducted for the subject property to determine the extent, if any, of contamination on the subject property. WVDEP then completed a site visit and determined

the site had been remediated, was deemed satisfactory and compliant, and therefore did not require a full Phase II ESA. The full Phase I ESA report including the EDR report and site photographs can be found in **Appendix B**.

During construction, hazardous materials would be stored in a locked, covered, facility wherever possible. Recyclable materials would be hauled off-site for recycling and construction waste would be disposed of at a permitted landfill facility.

Alternative 1 – No Action

Under the No Action Alternative, no impacts from hazardous materials are anticipated. No change to the status quo is anticipated, and no recognized environmental concerns were listed or found in EDR database information that would impact the continued operation of the portable classrooms at Elkview Middle School.

Alternative 2 – Relocation of Herbert Hoover High School (Proposed Action)

Under the Proposed Action Alternative, a site inspection was completed by WVDEP to ensure that there would be no impacts from hazardous materials during the relocation of Herbert Hoover High School. One recognized environmental concern was found in the WVDEP's information that may impact the site. On May 10, 2019, a WVDEP inspection was completed to close out the WV/NPDES Permit #WVG611813 for the debris material on the property. During the follow-up inspection, the formerly observed solid waste and debris had been removed and the site cleaned, allowing for closure of the WV/NPDES Permit. No violations were noted by the site inspector and the site was deemed satisfactory. Any hazardous materials discovered, generated, or used during construction would be handled and disposed of in accordance with applicable local, state, and federal regulations.

Alternative 3 – Redevelopment of Herbert Hoover High School

Under the Reconstruction Alternative, no impacts from hazardous materials are anticipated because no recognized environmental concerns were listed or found in EDR database information that would impact the site, and the former school has already been demolished, with any contaminants removed, prior to construction of a new school. Any hazardous materials discovered, generated, or used during construction would be handled and disposed of in accordance with applicable local, state, and federal regulations.

3.4 Socioeconomics

3.4.1 Zoning and Land Use

According to the Kanawha County Commission Department of Planning and Development, the Town of Clendenin does not have any zoning regulations in effect. The Kanawha County Department of Planning and Development oversees and enforces land use ordinances in the unincorporated areas of the county, including the community of Elkview.

Alternative 1 – No Action

The properties consisting of the former Herbert Hoover High School are listed as Parcel ID 20-01-024C-0007-0000 and 20-01-024C-0008-0000, according to the Kanawha County Assessor. The subject properties are currently listed as 612-School, totaling nearly 23.42 combined acres. The site of the portable classrooms is currently listed as 612-School. Under this Alternative, no land use or zoning changes would be required at this site.

Alternative 2 – Relocation of Herbert Hoover High School (Proposed Action)

The proposed project location is listed within Elkview, West Virginia with multiple parcels. According to Kanawha County Assessor information, the subject property is listed as 620 Religious. The subject property is primarily forested hillsides with minor cleared areas associated with site access adjacent to Givens Fork. The proposed site development would reclassify the Zone to ‘612-School’ per Kanawha County guidelines; therefore, changing the property listing long-term. The Kanawha County Commission Department of Planning and Development does not require a permit for this reclassification. The constitutes only a minor impact on land use.

Alternative 3 – Redevelopment of Herbert Hoover High School

Under the Reconstruction Alternative, no land use or zoning changes would be required. The existing Herbert Hoover High School site is listed as 612-School. Land use patterns would be similar to land use prior to the disaster, so any impacts would be negligible.

3.4.2 Noise

Noise is generally defined as undesirable sound and is federally regulated by the Noise Control Act of 1972 (NCA). Although the NCA gives the EPA the authority to prepare guidelines for acceptable ambient noise levels, it only charges those federal agencies that operate noise-producing facilities or equipment to implement noise standards; the EPA’s guidelines, and those of many federal agencies, state that outdoor sound levels in excess of 55 decibels (dB) are “normally unacceptable” for noise-sensitive land uses such as residences, schools, and hospitals. A noise ordinance does not exist for Clendenin or Elkview.

Alternative 1 – No Action

Under the No Action Alternative, no increased long-term noise impacts are anticipated.

Alternative 2 – Relocation of Herbert Hoover High School (Proposed Action)

Under the Proposed Action Alternative, construction and developmental noise impacts would be temporary and limited to the duration of construction activities. The nearest properties to the proposed school site are residential and to reduce the impacts of noise generated, construction activities would be restricted to normal business hours. Equipment and machinery utilized at the site would be required to meet all state and federal noise regulations. Long-term, the noise level at immediate site is anticipated to be slightly higher due to the operation of the new facility (e.g., when children are outdoors, or heating or cooling systems are operating). Noise levels along the roads used to access this site may increase slightly due to traffic when students need to be dropped off or picked up. Considering that increases to noise would be limited to normal business hours, minor impacts to noise levels in the surrounding area are anticipated. TERRADON

Corporation utilized the U.S. Department of Housing and Urban Development Day/Night Noise Level Calculator for the subject property and the full report can be found in **Appendix B**.

Alternative 3 – Redevelopment of Herbert Hoover High School

Under the Reconstruction Alternative, construction and developmental noise impacts would be temporary and limited to the duration of construction activities. To reduce noise levels during that period, construction activities would be restricted to normal business hours. Equipment and machinery utilized at the site would meet all state and federal noise regulations. Moderate, short-term, increases in noise levels would be anticipated to occur during construction activities. Long-term, vehicle traffic would return to pre-disaster levels, with students returning to Herbert Hoover High School.

3.4.3 Public Services and Utilities

Public services to the alternative locations are provided by private industries, local municipalities, and the State of West Virginia. These include police, fire, water, sewer, utilities, and road connections.

Alternative 1 – No Action

Under the No Action Alternative, public services would continue to be provided with no impact.

Alternative 2 – Relocation of Herbert Hoover High School (Proposed Action)

Under the Proposed Action Alternative, public services and utilities are already established. Water supply services are provided by West Virginia American Water; sewage services are provided by Elk Valley Public Service District; natural gas heating is provided in the general area of the subject property; electric power service in the adjacent area of the subject property is provided by American Electric Power; emergency fire services are provided by Frame Volunteer Fire Department; emergency medical services are provided by Kanawha County Emergency Ambulance Authority and/or General Ambulance Services; and Police Services are provided by Kanawha County, West Virginia State Police. The two nearest hospitals to the proposed site are: The Women’s and Children’s Hospital approximately 10.4 air miles away and Charleston General Hospital located approximately 10.5 air miles away. The primary road providing potential emergency services is Frame Road (Route 43). If road closures are located north of the subject property along Frame Road, the emergency responders can access from the south from Elkview. If road closures occur south of the subject property, emergency responders can access from the north of Frame Road from Interstate 79. The general area of the subject property is already developed with minor site utility access to water supply, sewage, electricity, natural gas, etc. to the southern extent of the subject property. During construction, minor, short-term utility outages may occur in the surrounding area due to utility development; however long-term effects due to utility access would not be anticipated.

Alternative 3 – Redevelopment of Herbert Hoover High School

Under the Reconstruction Alternative, there would be slight increases to public services or utility usage during construction activities at the existing site that would ultimately return to pre-disaster service levels.

3.4.4 Traffic and Circulation

The WVDOH via the West Virginia Department of Transportation (WVDOT) is responsible for planning, engineering, right of acquisition, construction, reconstruction, traffic regulation and maintenance of state roads, highways, and a portion of federal roads within West Virginia's boundaries. Arterials, connectors, rural roads, local roads, and county roads are constructed and maintained by county or city governments.

Alternative 1 – No Action

Under the No Action Alternative, no changes to existing traffic patterns would occur.

Alternative 2 – Relocation of Herbert Hoover High School (Proposed Action)

The Proposed Action Alternative is located on Frame Road. A traffic study was completed by A. Morton Thomas and Associates, Inc. to ensure that appropriate designs are made to accommodate the new vehicular traffic pattern. The site is proposed to be served by a single access connection – a full-movement connection to Frame Road directly aligning with the existing Old Frame Road intersection. This single access point, as well as Old Frame Road, would be assumed to operate under stop-control.

The results of the capacity analyses and the queueing analyses indicate that the trips generated by the proposed high school would have an impact on the traffic operations on Frame Road. These impacts are mostly observed at the I-79 southbound ramps and at the proposed school access driveway across from Old Frame Road. The results of the signal warrant analysis performed at the intersection of US 119 at Frame Road/Reynolds Avenue indicate the need for a traffic signal at this intersection.

In addition, the capacity analysis indicates that the minor approach of I-79 southbound off-ramp to Frame Road is expected to operate at an unacceptable level of service during both peak hours with the school traffic in place. Therefore, the potential installation of a traffic signal was considered at this intersection. The 2018 existing traffic volumes were applied to the Peak Hour Signal Warrant Criteria and both the AM and PM peak hour volumes meet the Warrant. Therefore, the installation of a traffic signal at this intersection would be recommended. With the signal in place, the overall intersection and all movements are expected to operate at acceptable levels of service. Based upon the results of the traffic study and recommended improvements, the trips generated by the proposed site would have minor long-term impacts to traffic.

Alternative 3 – Redevelopment of Herbert Hoover High School

Under the Reconstruction Alternative, there would be temporary impacts to current traffic patterns during construction activities. No long-term impacts are anticipated, compared to traffic patterns that existed prior to the disaster, when the school was in use.

3.4.5 Environmental Justice (Executive Order 12898)

EO 12898 (Environmental Justice in Minority Populations and Low-Income Populations) mandates that federal agencies identify and address, as appropriate, disproportionately high and adverse

human health or environmental effects of their programs, policies, and activities on minority and low-income populations. Socioeconomic and demographic data for the project area were analyzed to determine if a disproportionate number of minority or low-income persons have the potential to be adversely affected by the proposed project.

United States Census Bureau Data was used to assemble the following community profiles for Kanawha County and the communities of Clendenin and Elkview. Official 2010 Census Data was used as applicable, while additional information was taken from the 2013-2017 American Community Survey 5-Year Estimate (U.S. Census Bureau, American Fact Finder).

West Virginia has a population of 1,852,994, with school age children making up 18.1% of the population (2010 Demographic Profile). The state has an educational attainment rate of 85.9% of high school graduates and higher. The median household income is \$44,061 and 17.8% of individuals are identified as living below the Federal Poverty Level. Of the state population, approximately 1.5% of individuals identify as being of Hispanic or Latino origin. The majority of the population identifies as white, with 1.7% of individuals indicating they are of two or more races; for more details see **Table 1** below. Approximately 97.5% of the population is listed as English-speaking (2013-2017 American Community Survey 5-Year Estimate).

Kanawha County has a population of 193,063, with school age children making up 17.2% of the population (2010 Demographic Profile). The county has an educational attainment rate of 88.3% of high school graduates and higher. The median household income is \$46,859 and 16.5% of individuals are identified as living below the Federal Poverty Level. Of the Kanawha County population, 1.1% of individuals identify as being of Hispanic or Latino origin. Almost 9 out of 10 people in the county identify as white; for more information on the racial composition of the county, see **Table 1** below. Approximately 97.7% of the population is listed as English-speaking (2013-2017 American Community Survey 5-Year Estimate). Therefore, publication of a non-English EA or public notice is not warranted. However, appropriate plain language guidance would be made available if requested for limited English-speaking residents.

The Town of Clendenin has a population of 1,227, with school age children making up 18.9% of the population (2010 Demographic Profile). The town has an educational attainment rate of 77.8% of high school graduates and higher. The median household income is \$40,772 and 21.2% of individuals are identified as living below the Federal Poverty Level. Of the Clendenin population, 0.1% of individuals identify as being of Hispanic or Latino origin. The majority of the population identifies as white, with 4% of individuals indicating they are of two or more races; for more details, see **Table 1** below. Approximately 98.6% of the population is listed as English-speaking (2013-2017 American Community Survey 5-Year Estimate).

The community of Elkview has a population of 1,222, with school age children making up 14.8% of the population (2010 Demographic Profile). The community has an educational attainment rate of 82.7% of high school graduates and higher. The median household income is \$56,167 and 17.5% of individuals are identified as living below the Federal Poverty Level. Of the Elkview population, 0.9% of individuals identify as being of Hispanic or Latino origin. The majority of the population identifies as white, and almost 5% of the population is Asian; for more information, see **Table 1** below. Approximately 95.1% of the population is listed as English-speaking (2013-2017 American Community Survey 5-Year Estimate).

In both towns, the percentage of persons living below the poverty threshold is higher than in the county as a whole. The American Community Status data for the same time (2013 – 2017) for the state of West Virginia as a whole, indicated that 17.8% of people across the state were living below the Federal Poverty Level. This is a similar poverty rate to the rate in Elkview and slightly higher than the rate in Clendenin.

Table 1 – Summary of Percent Populations for Kanawha County, West Virginia

Race	West Virginia	Kanawha County	Clendenin	Elkview
White	93.9%	88.5%	96.2%	92.4%
Black or African American	3.4%	6.9%	0%	0%
American Indian and Alaska Native	0.2%	0.1%	0%	0%
Asian	0.7%	1.1%	0%	4.8%
Native Hawaiian or Other Pacific Islander	0%	0%	0%	0%
Some other race	0.3%	0.2%	0%	0%
Two or more races	1.5%	3.2%	3.8%	2.8%

Alternative 1 – No Action

Under the No Action Alternative, the redevelopment of Clendenin Elementary School would not be conducted, and FEMA funding would not be provided. The entire school-aged population would suffer from adverse impacts. There would not be disproportionate and adverse impacts on low-income or minority populations. The No Action alternative would impact the educational development for all high school age students in the school district. Following the near destruction of the former Herbert Hoover High School in the 2016 flood event, the school’s students have been accommodated at the Elkview Middle School site in another community in portable classroom facilities. Due to the increased population in the community at the location of the portable classrooms, the facilities are operating beyond their intended capacity in temporary classrooms. Adverse socioeconomic effects are being experienced by the community of Elkview due to increased school population, while the Town of Clendenin is suffering economically due to the decrease in traffic/population within the daily commutes. Without appropriate facilities to accommodate the students, students are subject to inadequate educational representation creating a disservice to the students and surrounding community that has already been subjected to a change in socio-economic development. There is a potential for future flood impacts and resulting interruptions in school services with the temporary facilities remaining in and or adjacent to the floodplain.

Alternative 2 – Relocation of Herbert Hoover High School (Proposed Action)

The Proposed Action would not have disproportionately high and/or adverse effects on minority or low-income populations, as it would impact all populations in each community equally. Under the Proposed Action Alternative, there would not be a major change regarding the proximity of the school to the population of the Town of Elkview, as the project site is located approximately 6 miles away. Based on census data, the students and residents within the project area would be impacted equally on a demographic basis. The proposed project would relocate all students, teachers, and staff to the new campus outside the SFHA, that would operate under all guidance mandated under WVDE Policy 6200. The Proposed Action would return the school to its pre-disaster capacity. This alternative would not permanently increase the number of residents in the project vicinity and would not generate additional demand for housing or jobs. The site location and proximity to current location would be beneficial to the students and surrounding community, allowing for ease of access to after school programs and extracurricular activities. The Proposed Action would create a permanent replacement for the current facilities that are not intended to be permanent. The Proposed Action would comply with EO 12898 and would not result in long-term adverse socioeconomic impacts.

Alternative 3 – Redevelopment of Herbert Hoover High School

Under the Reconstruction Alternative, there would not be impacts to environmental justice or demographics. This alternative would allow for appropriate facilities to be built on the site of the former Herbert Hoover High School that would accommodate educational needs not currently being met in the portable classrooms. The facility would be built in the floodplain but elevated above BFE. Ingress and egress routes would continue to be within the floodplain which could leave students, faculty, and staff at risk, including the risk of entrapment during a flood, and the risk of interruptions in school services after a flood. This alternative would not have disproportionate and adverse effects on minority or low-income populations.

3.4.6 Safety and Security

To minimize risks to safety and human health, all construction activities would be performed using qualified personnel trained in the proper use of equipment, including all safety precautions. Additionally, all activities would be conducted in accordance with the standards specified in Occupational Safety and Health Administration (OSHA) regulations. EO 13045 (Protection of Children from Environmental Health Risks and Safety Risks) mandates that Federal agencies identify and assess health risks and safety risks that may disproportionately affect children. Environmental health and safety risks include those that are attributable to products or substances that the child is likely to encounter or ingest (such as the air we breathe, the food we eat, the water we drink or use for recreation, the soil we live on, and the products we use or are exposed to).

Alternative 1 – No Action

Under the No Action Alternative, there would be no change to the status quo. There are no known health or safety issues for students or others if there is not a future flood. There would continue to be risks to the safety and security of students, faculty, and staff in the event of flooding, because the school facilities are within the SFHA, although the temporary classrooms are elevated above

BFE. The temporary school site and access roads to the site are located within the floodplain and regulatory floodway, and the area has a history of repetitive flooding during high rain events. Floodwaters are often contaminated with hazardous materials, such as chemicals and raw sewage, and facility exposure to floodwaters increases the likelihood of mold. Given the history of flooding at this location, and its location within the SFHA, it is reasonable to believe that the area will flood again. Future flooding would present an increased risk to children present in the floodplain at the time of flooding. In the event of a future flood affecting school buildings, the school system would be responsible for preventing children from returning to this site before flood damages have been fully remediated; there may also be risks to any adults returning to the site.

Alternative 2 – Relocation of Herbert Hoover High School (Proposed Action)

The Proposed Action Alternative would require extensive construction activities associated with development. Construction activities would require all personnel to have appropriate OSHA certifications and knowledge associated with their profession. Appropriate counter measures would be taken along with Health Site and Safety Plans. As this location is primarily located away from the larger population of the community, significant short-term risks to the public during construction activities are not anticipated. During construction, appropriate signage and fencing would be implemented to ensure the public does not enter an active construction zone. Safety concerns for this alternative would be limited to short-term development of the site and facilities and would not have a long-term adverse effect on safety or security. There are two pipelines located within the same right of way to the north of the school property, but all construction would occur outside the right of way and not impact the gas lines. Over the long-term, students, faculty, and staff who use the new school would be at a decreased risk in the event of flooding compared to scenarios involving using school buildings in the SFHA with access roads that could be flooded.

Alternative 3 – Redevelopment of Herbert Hoover High School

The Reconstruction Alternative would require extensive construction activities associated with development at the site of the former Herbert Hoover High School. Construction activities would require all personnel to have appropriate OSHA certifications and knowledge associated with their profession. Appropriate counter measures would be taken along with Health Site and Safety Plans. During construction activities, signage and fencing would be utilized to ensure the public does not enter an active construction zone. Although the reconstruction activities would be within a populated residential area, appropriate counter measures would mitigate safety risks to the public and no short-term risks would be anticipated.

Additionally, the safety and security of students, faculty, and staff associated with Herbert Hoover High School would be at risk due to future flood disasters on a long-term basis. The former Herbert Hoover High School is located within the floodplain and the area has a history of repetitive flooding during high rain events. Given the history of flooding at this location, and its location within the SFHA, it is reasonable to believe that the area will flood again. Although construction would elevate the site above BFE, the surrounding properties, including the main point of ingress and egress to the school, would remain at risk.

3.5 Historic and Cultural Resources

Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended, 54 U.S.C. §306108, requires Federal agencies to consider the impact an undertaking (in this case the Proposed Action Alternative) has on historic properties. These review activities are referred to as the Section 106 process. According to 36 CFR 60.4, historic properties are defined as districts, sites, buildings, structures, and/or objects that are listed in- or eligible for listing in the National Register of Historic Places (NRHP). In accordance with the 36 CFR 800.4, Federal agencies are required to identify historic resources within an undertaking's Area of Potential Effect (APE). As defined in 36 CFR Part 800.16(d), the APE "is the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if such properties exist." In consultation with the appropriate State Historic Preservation Officer (SHPO) and/or Tribal Historic Preservation Officer (THPO), Federal agencies must evaluate the identified historic resources for NRHP eligibility and assess the potential effects to those historic properties resulting from the proposed undertaking. If the undertaking is determined to have an adverse effect on historic properties, then the agency must attempt to avoid, minimize, or mitigate that adverse effect.

Regarding the proposed undertaking FEMA has consulted with the West Virginia SHPO and the appropriate THPO — the Seneca Nation of Indians. FEMA also considered the proposed alternatives, conducting an archives search through the West Virginia SHPO's Interactive GIS Map for each location. A summary of those results and the subsequent Section 106 process for each alternative is provided below.

Alternative 1 – No Action

A search of West Virginia SHPO's Interactive GIS map in the vicinity of Elkview Middle School identified several nearby residential buildings for which Historic Property Inventory (HPI) forms had been created; however, there were no known NRHP-eligible or NRHP-listed properties present. Under the No Action Alternative, no new impacts to historic properties would result from the portable classrooms remaining at Elkview Middle School.

Alternative 2 – Relocation of Herbert Hoover High School (Proposed Action)

A search of West Virginia SHPO's Interactive GIS map in the vicinity of the proposed construction site identified no known historic properties. Because the proposed construction involves the disturbance of 90 acres of land, FEMA consulted with the West Virginia SHPO to assess potential impacts to historic properties. On March 19, 2019, FEMA determined that there were no historic properties within the APE and therefore no historic properties would be affected by the undertaking. On March 27, 2019, West Virginia SHPO concurred that there were no historic properties within the 90 acres of disturbance at the new construction site.

Due to known cultural areas of interest in Kanawha County, FEMA consulted with Seneca Nation of Indians in July 2016, immediately following the disaster declaration for DR-4273-WV. At the time, the Seneca Nation of Indians did not express any specific concerns with DR-4273-WV Public Assistance activities within the declared counties, including Kanawha County. However, due to the degree of ground disturbance involved with the proposed undertaking, FEMA consulted with the Seneca Nation of Indians specifically regarding the Proposed Action. On April 11, 2019, FEMA

forwarded all the aforementioned correspondence with the West Virginia SHPO to the Seneca Nation of Indians. On May 1, 2019, the Seneca Nation of Indians concurred with the West Virginia SHPO that the proposed undertaking would result in no effect to historic properties.

This concluded the Section 106 Process for the Proposed Action Alternative and documenting its compliance with the NHPA. Copies of correspondence between FEMA and West Virginia SHPO and FEMA and the Seneca Nation of Indians can be found in **Appendix C** of this report.

Alternative 3 – Redevelopment of Herbert Hoover High School

A search of West Virginia SHPO’s Interactive GIS map in the vicinity of the original Herbert Hoover High School site at 5856 Elk River Road N in Clendenin revealed that Herbert Hoover High School (16-852-KA) (constructed circa 1961-63) was a previously-identified historic resource per the West Virginia SHPO. A determination of eligibility was conducted for the original Herbert Hoover High School building in July 2016. Through consultation with the West Virginia SHPO, FEMA determined the building was not eligible for listing in the NRHP on July 12, 2016. The West Virginia SHPO concurred with this determination on December 16, 2016. The building was subsequently demolished. Thus, the reconstruction of Herbert Hoover High School on the original site would have no direct or indirect effects on cultural and/or historic resources.

Copies of correspondence between FEMA and West Virginia SHPO (including the HPI form) can be found in **Appendix C** of this report.

3.6 Comparison of Alternatives

The primary impacts from the No-Action Alternative would be associated with the risks stemming from keeping the temporary classrooms in a location where ingress and egress routes could be flooded (as the temporary classrooms are within the floodplain but elevated above BFE) and potential safety impacts associated with continued occupancy of the floodplain. The impacts from the Proposed Action Alternative would include changes to land use, minor short-term impacts from construction activities, and minimal long-term impacts to farmland, water resources, and the floodplain. The impacts from the Redevelopment Alternative would include minor short-term impacts from construction activities, with long-term impacts to the safety and security of the school and children due to the location of the building and surrounding areas within the floodplain. The following table summarizes the potential impacts analyzed for all three alternatives.

Table 2 – Summary of Environmental Impacts

Affected Environment	No Action Alternative	Proposed Action Alternative	Redevelopment Alternative
Soils and Geology	<ul style="list-style-type: none"> No impact or FPPA compliance requirements. 	<ul style="list-style-type: none"> Moderate short-term, minor long-term. Meets FPPA compliance requirements. 	<ul style="list-style-type: none"> Moderate short-term, minimal long-term. No FPPA compliance requirements.
Water Resources and Water Quality	<ul style="list-style-type: none"> No impact. 	<ul style="list-style-type: none"> Moderate short-term, minimal long-term. 	<ul style="list-style-type: none"> Minor short and long-term impacts.

Affected Environment	No Action Alternative	Proposed Action Alternative	Redevelopment Alternative
Floodplain Management	<ul style="list-style-type: none"> No impact at original site, moderate impact at temporary classroom location. 	<ul style="list-style-type: none"> Minor impact. 	<ul style="list-style-type: none"> Moderate impact, as the school would be elevated above BFE during redevelopment; however, children would continue to use flood prone areas, with all egress from routes from the school through the floodplain.
Air Quality	<ul style="list-style-type: none"> No impact. 	<ul style="list-style-type: none"> Negligible short-term impacts during construction. 	<ul style="list-style-type: none"> Negligible short-term impacts during construction.
Terrestrial and Aquatic Environment	<ul style="list-style-type: none"> No impact. 	<ul style="list-style-type: none"> Minimal impacts to terrestrial species and the aquatic resources. 	<ul style="list-style-type: none"> No impact to terrestrial species, minimal impact to aquatic resources.
Wetlands	<ul style="list-style-type: none"> No impact. 	<ul style="list-style-type: none"> No impact. 	<ul style="list-style-type: none"> No impact.
Threatened and Endangered Species	<ul style="list-style-type: none"> No impact. 	<ul style="list-style-type: none"> May affect, but not likely to adversely affect, listed species. 	<ul style="list-style-type: none"> May affect, but not likely to adversely affect, listed species.
Hazardous Materials	<ul style="list-style-type: none"> No impact. 	<ul style="list-style-type: none"> No impact. 	<ul style="list-style-type: none"> No impact.
Zoning and Land Use	<ul style="list-style-type: none"> No impact. 	<ul style="list-style-type: none"> Minor impact. 	<ul style="list-style-type: none"> Negligible Impact.
Noise	<ul style="list-style-type: none"> No impact. 	<ul style="list-style-type: none"> Moderate short-term impact due to construction noise, minimal long-term impacts. 	<ul style="list-style-type: none"> Moderate short-term impact due to construction noise, no long-term impacts.
Public Service and Utilities	<ul style="list-style-type: none"> No impact. 	<ul style="list-style-type: none"> Minor short-term impact during construction, no long-term impacts. 	<ul style="list-style-type: none"> Minor short-term impact during construction, no long-term impacts.
Traffic and Circulation	<ul style="list-style-type: none"> No impact. 	<ul style="list-style-type: none"> Minor short-term construction impacts and minor traffic impacts. 	<ul style="list-style-type: none"> Minor short-term construction impacts. No long-term impacts.
Environmental Justice	<ul style="list-style-type: none"> No disproportionate and adverse effects on minority 	<ul style="list-style-type: none"> No disproportionate and adverse effects on minority or low-income populations. 	<ul style="list-style-type: none"> No disproportionate and adverse effects on minority or low-income populations.

Affected Environment	No Action Alternative	Proposed Action Alternative	Redevelopment Alternative
	or low-income populations.		
Safety and Security	<ul style="list-style-type: none"> No short-term construction impacts. Moderate long-term impacts due to possibility of future flooding. 	<ul style="list-style-type: none"> Negligible short-term construction impacts; no long-term impacts to health and safety of children. 	<ul style="list-style-type: none"> Negligible short-term construction impacts; Moderate long-term impacts in the event of future flooding.
Historic Structures	<ul style="list-style-type: none"> No historic properties affected. 	<ul style="list-style-type: none"> No historic properties affected. 	<ul style="list-style-type: none"> No historic properties affected.
Archaeological Resources	<ul style="list-style-type: none"> No archaeological resources affected. 	<ul style="list-style-type: none"> No archaeological resources affected. 	<ul style="list-style-type: none"> No archaeological resources affected.
Tribal and Religious Sites	<ul style="list-style-type: none"> No effect. 	<ul style="list-style-type: none"> No effect. 	<ul style="list-style-type: none"> No effect.

SECTION FOUR: CUMULATIVE IMPACTS

Cumulative effects are defined by the CEQ as the impact on the environment, resulting from the incremental impacts of the evaluated actions when added to other past, present, and reasonably foreseeable future actions, regardless of the source, Federal or non-Federal. Per 40 CFR §1508.7, cumulative impacts can result from individually minor but collectively significant actions taken over time.

Kanawha County is currently engaged in numerous flood recovery projects, funded from various Federal and state sources, as well as local and private sources. Past and present recovery activities include demolition of flood damaged residential, commercial and public buildings, restoration of flood-impacted facilities, acquisition of residential homes from willing sellers, and mitigation of residential homes through elevation or reconstruction above BFE. These activities are being undertaken as part of the necessary recovery efforts following the 2016 flood, and focus is being placed on reducing future risk by removing or mitigating properties in the SFHA. This will have a beneficial impact on the floodplain, by converting developed space into natural open space and reducing potential flood risk. Acquisition of homes in the SFHA may result in some individuals moving to other communities (some of whom may have already relocated, after the 2016 flood event). Additional factors may also influence demographics, including changes to nearby employment opportunities.

In addition to the loss of the former Herbert Hoover High School, the community also experienced substantial damage and subsequent demolition of Clendenin Elementary School. While the school has been operating out of a separate shared space with Bridge Elementary School, they are pursuing a reconstructed school which is being evaluated under a separate FEMA EA. Several options are being considered under the Clendenin Elementary EA; however, none of the alternatives are expected to present significant impacts either individually or cumulatively.

Reasonably foreseeable future actions in the area include the replacement of Herbert Hoover High School and continued public and private recovery projects. Additional future land use changes may occur within the project area due to private development, or currently unplanned flood mitigation projects that convert developed land to open space. Past, present and future actions are not expected to result in increased long-term development or population growth, as the goal is to restore pre-disaster services to the community. Hydraulic fracturing and other resource extraction activities are conducted in Kanawha County and throughout West Virginia, although they are not known to occur near the site of the Proposed Action. These extraction activities have the potential to impact the environment in a number of ways, including stressing surface water and groundwater supplies, contaminating drinking water, adversely impacting surface water, and releasing air pollutants. The EPA found evidence that hydraulic fracturing can impact drinking water under certain conditions, however the EPA study concluded that it is not possible to fully calculate the frequency or severity of the impacts at this time (US EPA).

This assessment concludes that the long-term impacts of the Proposed Action would consist of minor to negligible impacts to soils, water resources, and floodplains. In addition, there may be moderate short-term impacts to water quality and soils during construction. The other activities described above affecting the same area could also impact these resources. Impacts from other projects to soils would be minimized using Erosion and Sedimentation Control Plans. Projects proposed in the floodplain are managed through the requirement to obtain permits from the local floodplain manager and projects proposed to impact waterways would need to obtain permits through WVDEP and USACE. Because frameworks are in place to manage potential environmental impacts, no significant impacts are anticipated from the incremental impact of the Proposed Action in combination with other past, present, and reasonably foreseeable future actions near the former school site and the proposed new Herbert Hoover High School building and associated facilities.

SECTION FIVE: PUBLIC PARTICIPATION

Prior to the start of the formal federal NEPA process, the selection of a site to construct the new Herbert Hoover High School was the focus of Elkview, Clendenin, and Kanawha County public meetings. Public involvement included Kanawha County public meetings, KCBOE meetings, and town hall meetings to establish an open discussion with the surrounding community. Throughout the process representatives from state, local, and federal agencies, State and Federal Representatives, politicians, local community, and schools have participated in the public comment process.

The NEPA process requires that opportunities be provided for public review and comment. The publication of this draft EA will kick off a 30-day public comment period, offering an additional formal opportunity for public involvement. KCBOE will advertise the draft EA for renovating the relocation of Herbert Hoover High School as per NEPA requirements. The proposed site activities consist of approximately 93 acres situated within nearly 293.34 acres located along Givens Fork, Elkview, Kanawha County, West Virginia. Coordinates for the center of the subject property are 38.477853 latitude, -81.376292 longitude. The 30-day comment period began on August 27, 2019 and lasted 30 days from the date of the advertisement in the *Charleston Gazette-Mail* newspaper, until September 26, 2019. The Draft EA Document was made available at the Kanawha County Main Library, Clendenin Branch Library, and Elk Valley Branch Library and posted online at the

FEMA website at <https://www.fema.gov/disaster/4273>. Written comments can be submitted by email to FEMA-R3-EHP-PublicComment@fema.dhs.gov or by mail, addressed to FEMA Region III, Disaster 4273, 615 Chestnut Street, Sixth Floor, Philadelphia, PA 19106, ATTENTION: KCBOE Herbert Hoover High NEPA Comments. A public meeting on the Draft Environmental Assessment was held on September 18, 2019 from 6 p.m. to 8 p.m. at Elkview Middle School, located at 5090 Elk River Rd, Elkview, WV 25071. The meeting provided an overview of the Draft Environmental Assessment and allowed an in-person opportunity to submit public comments and ask questions. One total comment was received during the public comment period. The substantive comment received during the public comment period was addressed as appropriate in the final document. After the substantive comment was addressed, the Draft EA becomes final and the initial Public Notice also serves as the final Public Notice.

A Response to Comments Document was generated and included with in the updated report as **Appendix E**. The Public Notice was attached in **Appendix D**.

SECTION SIX: MITIGATION MEASURES AND PERMITS

- 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 Recipient prior to the start of work the applicant (SBA and KCBOE) must contact FEMA so that the revised project scope can be evaluated for compliance with NEPA and other applicable environmental laws.
- The applicant is responsible for obtaining and complying with all required local, state and federal permits and approvals.
- Terms and conditions set by USACE and WVDEP to minimize effects to water quality will be abided by the applicant.
- USFWS Conditions:

An Environmental Coordinator will be secured to conduct turbidity monitoring onsite to ensure that the proposed erosion and sedimentation structures are working correctly. If increased turbidity is observed the Environmental Coordinator will be able to immediately implement measures to avoid further impacts. The EC is a qualified West Virginia mussel surveyor and will coordinate sediment monitoring as described in the April 24, 2019, Memorandum of Understanding. This includes, but is not limited to, pre-construction turbidity monitoring of Givens Fork, inspecting erosion and sedimentation control measures during construction activities, turbidity monitoring of Givens Fork at least once every seven calendar days and after any storm event of more than 0.5 inches in a 24-hour period, ensuring that compromised erosion and sedimentation control measures are promptly repaired, and quarterly reports of turbidity monitoring and inspections submitted to the Service.

The applicant has also developed enhanced erosion and sedimentation control measures exceeding the standard requirements of their National Pollutant Discharge Elimination System permit. As stated in correspondence dated April 9 and May 7, 2019, these measures will include:

- Installing erosion and sedimentation control measures prior to any tree removal;

- Using super silt fence in place of normal belted silt fence;
 - Incorporating an additional diversion channel along Givens Fork that uses a multi-layered approach of silt fence, diversion channel, a subsurface pipe drain, and another row of silt fence;
 - Having periodic stone check dams in the additional diversion channel that will drain to a temporary sediment basin prior to discharging into Givens Fork;
 - During mass fill operations, using a moving temporary sediment basin that will empty into another settling basin, to provide a double filter of suspended solids;
 - Emptying sediment traps and inlet protection devices when half the wet storage capacity has been filled;
 - Removing sediment from behind sediment fence when it becomes 0.5-foot-deep, and repairing the sediment fence to maintain a barrier;
 - Mulching all disturbed areas should grading be discontinued for more than 7 days;
 - Seeding and mulching disturbed areas within 7 days of construction completion; and
 - Establishing permanent vegetative cover for site stabilization, which is estimated to take 36 months.
- The Compensatory Mitigation Plan for stream impacts submitted will abide in compliance with USACE and WVDEP.
 - Construction best management practices, as identified in the Erosion and Sedimentation Control Plan prepared for the Proposed Action, will be utilized and maintained throughout construction to control soil erosion and sediment, reduce spills and pollution, and provide habitat protection.
 - Erosion controls will be in place prior to any ground disturbing activity.
 - Avoided wetland and streams will be fenced during construction as no-work areas.
 - Site soils will be covered and/or wetted during construction to minimize fugitive dust.
 - Construction activities will be conducted during the daytime hours to reduce adverse noise impacts.
 - The applicant 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 applicant shall notify the coroner's office (in the case of human remains), FEMA, and the State Historic Preservation Office.
 - Any hazardous materials discovered, generated, or used during construction would be disposed of and handled in accordance with applicable local, state, and federal regulations, with WVDEP being the lead agency regarding compliance. During all activities, appropriate measures to remove, prevent, contain, minimize, and control spills of any potentially hazardous materials will be employed.
 - Heavy machinery and equipment to be used for the Proposed Action will meet federal clean air standards. In addition, all equipment used shall have sound control devices no less effective than those provided on the original equipment. No equipment shall have un-muffled exhaust.
 - All equipment shall comply with pertinent equipment noise standards of the U.S. Environmental Protection Agency.

SECTION SEVEN: CONSULTATIONS AND REFERENCES

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USGS 7.5-Minute Topographic Quadrangle Map

West Virginia Department of Environmental Protection-Division of Air Quality

West Virginia Department of Natural Resources

West Virginia Wildlife Diversity Program

West Virginia National Heritage Program

West Virginia Department of Wildlife

West Virginia Division of Highways

West Virginia Division of Transportation

Pertinent and available local, state, and federal government listing of recognized environmental conditions were reviewed for evidence of activities, which may have an adverse impact on the subject property. Some of those agencies/listings and the databases searched by Environmental Data Resources, Incorporated (EDR) include the following:

- US Environmental Protection Agency (USEPA);
- West Virginia Department of Environmental Protection (WVDEP);
- Division of Water Resources (DWR);
- National Priorities List (NPL);
- Proposed National Priority List sites;
- National Priority List Deletions (Delisted NPL);
- Federal Superfund Liens (NPL Liens);
- active Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS);
- CERCLIS No Further Remedial Action Planned sites (CERC-NFRAP);
- Corrective Action Report sites (CORRACTS);
- Resource Conservation and Recovery Information System (RCRIS) databases including the Treatment, Storage and Disposal Facility (TSD) list and large and small quantity generator list (LQG/SQG) sites;
- Emergency Response Notification System (ERNS);
- Hazardous Materials Information Reporting System (HMIRS);
- Engineering Controls Sites List (US ENG CONTROLS);
- sites with Institutional Controls (US INST CONTROLS);
- Department of Defense Sites (DOD);
- formerly used defense sites (FUDS);
- US Brownfield;
- Superfund Consent Decrees (CONSENT);
- Records of Decision (ROD);
- Uranium Mill Tailings Sites (UMTRA);
- Open Dump Inventory (ODI);
- Toxic Chemical Release Inventory System (TRIS);
- Toxic Substances Control Act (TSCA);

- FIFRA/TSCA Tracking System (FTTS);
- Section 7 Tracking Systems (SSTS);
- Land Use Control Information System (LUCIS);
- Incident and Accident Data (DOT OPS);
- Integrated Compliance information System (ICIS);
- FIFRA/TSCA Tracking System Administrative Case Listing (HIST FTTS);
- Drug Lab Site Locations (CDL);
- Radiation Information Database (RADINFO);
- CERCLA Lien Information (LIENS 2);
- PCB Activity Database System (PADS);
- Material Licensing Tracking System (MLTS);
- Mines Master Index File (MINES);
- Facility Index System/Facility Identification Initiative Program Summary Report (FINDS);
- RCRA Administrative Action Tracking System (RAATS);
- Indian Reservations (INDIAN RESERV);
- Indian LUST (INDIAN LUST);
- Indian UST (INDIAN UST);
- Manufactured gas plants;
- State hazardous waste sites (SHWS);
- Municipal Solid Waste Landfills/Transfer Stations (State Landfill);
- Leaking Underground Storage Tank (LUST) list;
- Registered underground storage tank (UST);
- Spills listing (SPILLS);
- Sites with Institutional Controls (INST CONTROLS);
- Voluntary Remediation Sites (VCP);
- List of Drycleaner Locations (DRYCLEANERS);
- Wastewater Discharge Permits Listing (NPDES); and,
- Permitted Facility and Emissions Listing (AIRS)

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APPENDICES

Appendix A Maps and Figures

Appendix B Technical Reports

Appendix C Agency Correspondence

Appendix D Public Notice

Appendix E Public Comments