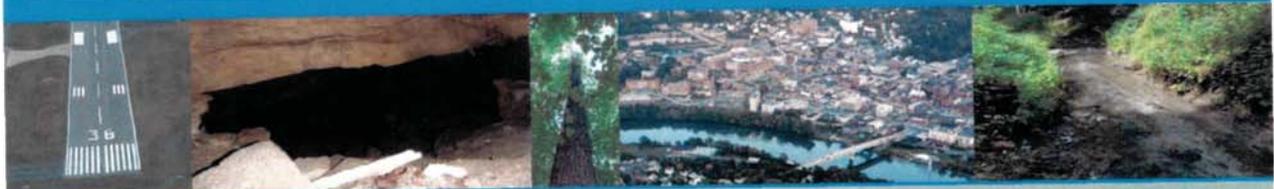


Morgantown Municipal Airport

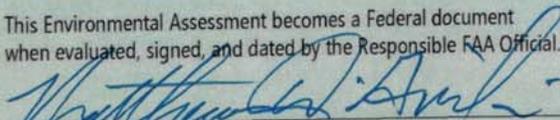


Final Environmental Assessment for Runway 18-36 Extension

Volume I: Environmental Assessment



This Environmental Assessment becomes a Federal document when evaluated, signed, and dated by the Responsible FAA Official.


Responsible FAA Official

10/24/19
Date

Submitted to:
Morgantown Municipal Airport

Submitted by:
Michael Baker International, Inc.

Michael Baker
INTERNATIONAL



U. S. Department
of Transportation

**Federal Aviation
Administration**

BECKLEY AIRPORTS FIELD OFFICE
176 Airport Circle, Room 101
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October 24, 2019

Mr. Jonathon Vrabel, Director
Morgantown Municipal Airport
100 Hart Field Road
Morgantown, WV 26505

Re: Federal Aviation Administration (FAA) Finding for the Proposed Runway 18-36
Extension at Morgantown Municipal Airport (MGW)

Dear Mr. Vrabel:

Enclosed is one copy of the Finding of No Significant Impact/Record of Decision
(FONSI/ROD) for the proposed Runway 18-36 Extension at MGW.

This Federal environmental approval is a determination by the approving official that the requirements imposed by applicable environmental statutes and regulations have been satisfied by a FONSI/ROD. However, it is not an approval of the Federal action approving the funding of eligible items for this project, nor approval of the air space review, or the unconditional approval of the revision of the Airport Layout Plan (ALP) to show the project. These decisions remain with the FAA Beckley Field Office

In accordance with the National Environmental Policy Act (NEPA) of 1969 and FAA Order 5050.4B Implementing Instructions for Airport Actions, you are required to publish a notice of availability (NOA) of the FONSI/ROD and Final EA. Please refer to 40 CFR 1506.6 (b) and FAA Order 5050.4B, section 807 for the announcement methods. Also please forward a proof of publication of the NOA and one (1) electronic copy of the completed document to this office for our files.

Thank you for your efforts in completing this action. If you have any questions or comments please contact me at Susan.Stafford@faa.gov or (304) 252-6216.

Sincerely,

A handwritten signature in black ink, appearing to read "S. B. Stafford", with a long horizontal flourish extending to the right.

Susan B. Stafford
Environmental Protection Specialist

Enclosures

cc: Carly Reimer, P.E., Project Manager, Michael Baker International (w/encl via email)
Brad Homan P.E., Assoc. VP, Director, Michael Baker International (w.encl via email)
Matthew Di Giulian, P.E., Manager, FAA (w/encl via email)

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
FINDING OF NO PERMANENT SIGNIFICANT IMPACT
RECORD OF DECISION

Location

Morgantown Municipal Airport
Monongalia County, West Virginia

Introduction

This Finding of No Significant Impact/Record of Decision (FONSI/ROD) sets out the Federal Aviation Administration's (FAA) consideration of environmental and other factors for Airport Layout Plan (ALP) approval and federal financial assistance for the extension of Runway 18-36 at Morgantown Municipal Airport (MGW). This FONSI/ROD is based on the final Environmental Assessment (EA) for *Runway 18-36 Extension* dated July 2019.

Project Description

The Proposed Action includes the following:

- 1,001-foot extension to the southern end of Runway 18-36 for a total runway length of 6,200 feet.
- 1,260 feet parallel taxiway extension;
- 4,740 linear feet of relocated Airport Access Road;
- 1,000 feet of Runway Safety Area (RSA) on the Runway 36 end;
- Additional 200 feet of RSA on the 18 end for a total RSA length of 400 feet;
- Relocation of 2 Medium Approach Light System (MALSR) Light Stations;
- Relocation of existing Localizer;
- Removal of Visual Approach Slope Indicator (VASI) and relocated/replaced with Precision Approach Path Indicators (PAPI);
- Relocation of the Runway Protection Zone (RPZ);
- Installation of Runway and Taxiway Edge Lights;
- Potential relocation of 1,160 linear feet of Wolfe Run Road;
- Acquisition and relocation of 7 (seven) residences;
- Obstruction removal south of Runway 18-36;
- Acquisition of borrow material (approximately 4.4 million cubic yards) for the runway extension and embankment; and
- Development of new runway approaches to Runway 36 and Runway 18.

Proposed Agency Actions

The FAA actions involved in the implementation of the Proposed Action include the following:

- Unconditional Approval of the MGW ALP to reflect all components of the Runway 18-36 extension as described above, pursuant to 49 U.S.C. §40103(b) and §47107(a)(16); and

determination of the effects of this project upon the safe and efficient utilization of navigable airspace pursuant to 14 C.F.R. Parts 77 and 157 and 49 U.S.C. §44718;

- Determination under 49 U.S.C. §§40101(d)(1) and 47105(b)(3) as to whether the Proposed Action maintains and enhances safety and security, and meets applicable design and engineering standards set forth in FAA Advisory Circulars;
- Determinations concerning funding through the Federal grant-in-aid program authorized by the Airport and Airway Improvement Act of 1982, as amended (recodified at 49 U.S.C. §47107);
- Determination under 49 U.S.C. §44502(b) that the subject airport development is reasonably necessary for use in air commerce or in the interests of national defense;
- Continued close coordination with the City of Morgantown and appropriate FAA program offices, as required, for safety during construction (14 C.F.R. Part 77); and
- Approval of appropriate amendments to the MGW Airport Certification Manual (ACM), as required, pursuant to 49 U.S.C. §44706.

Purpose and Need (Refer to Section 1.5 of the EA)

The Purpose is to extend Runway 18-36 to a length that would best satisfy the requirements of the critical aircraft currently operating at MGW. In conjunction with the EA, a *Runway Extension Justification Study* was prepared which indicated that the most demanding grouping of corporate jets with similar characteristics need a landing distance of 6,200 feet in both directions on Runway 18-36; therefore, extending the runway from 5,199 feet to 6,200 feet. RSA improvements are also included for a landing distance of 6,200 feet in both directions of Runway 18-36 to enhance safety for aircraft operations at MGW. The need is to accommodate the length requirements for current and future aircraft and improve operational safety for aircraft.

In addition to the Federal purpose and need, the proposed project would also serve a number of local considerations for development at MGW. An extension of the existing runway would provide aircraft operators with greater flexibility flying in and out of MGW. The existing runway length at MGW does not allow many existing and potential airport users to maximize their desired performance capabilities for corporate jet operations. In many cases, corporate jet operators simply avoid flying into and out of MGW because they cannot fulfill their mission requirements. The proposed runway length would help to better fulfill the desired mission requirements for many corporate jet operators that utilize MGW on a regular basis.

Alternatives (Refer to Sections 2.1 through 2.3 of the EA) The alternatives evaluated include:

Declared Distance. This alternative proposed to extend the runway to a total length of 6,800 feet end to end and utilize declared distances to provide adequate safety areas on each runway end. The Runway 18 landing area would be extended approximately 400 feet providing a total of 600 paved feet of landing safety area. The extension of the safety area prior to the Runway 18 threshold would require embankment construction as well as construction of a retaining wall approximately 90 feet high. It would also require the conversion of two light stations for the MALSRS to in-pavement stations. In addition, this Alternative includes paving the existing safety area behind Runway 36 for approximately 1,000 feet to provide additional take off run. Landing distance available would be 5,200 feet and departure length would be 5,800 for each runway end.

The landing distance available under the Declared Distance Alternative as described in the 2012 *Master Plan Update* would not be sufficient for critical aircraft and does not meet the needs of the Airport. The Declared Distance Alternative does not meet the purpose and need for providing sufficient landing distance for critical aircraft and addressing safety; therefore, it was dismissed from further consideration.

Alternative 1 - 1,001' Runway 36 Extension with 1000' Runway 36 RSA/400' Runway 18 RSA. This alternative would extend the runway by 1,001 feet to the south and provide 1000 feet of fully graded RSA to the south of the paved runway on the Runway 36 end and 400 feet of graded RSA to the north of the paved runway on the Runway 18 end providing a total runway length of 6,200 feet. This alternative includes a parallel taxiway extension (by approximately 1,260 feet for a new length of 6,200 feet), relocation of an existing airport access road, potential relocation of Wolfe Run Road, relocation of navigational aids, installation of runway and taxiway edge lights, relocation of the localizer, and construction of an embankment at both ends of the runway. Only two stations of the MALSR system would require replacement/relocation. Alternative 1 was carried forward as the Preferred Alternative.

Alternative 2: 1,001' Runway 36 Extension with 600' Graded RSA using EMAS/400' Runway 18 RSA. This alternative represents a runway extension of 1,001 feet to the south utilizing an Engineered Materials Arresting System (EMAS) rather than with a fully graded RSA. The total runway length would be 6,200 feet. Alternative 2 is similar to Alternative 1 and includes a 400-foot Graded RSA to the north of the paved runway on the Runway 18 end, but utilizes an EMAS bed and a shortened overall RSA to the south of the paved runway on the Runway 36 end. By utilizing an EMAS, the RSA could be shortened from a 1,000-foot full length graded RSA to a 600-foot graded RSA while still providing a compliant standard RSA. The shortened RSA with an EMAS would reduce impacts and costs compared with a full graded RSA. However, with a standard service life of 10-20 years of an EMAS bed, maintenance costs would be substantially higher than a standard 1,000-foot RSA as proposed in Alternative 1. Similar to Alternative 1, this action includes a parallel taxiway extension (to 6,200 feet), relocation of an existing airport access road, relocation of navigational aids, installation of runway and taxiway edge lights, relocation of the localizer, and construction of an embankment at both ends of the runway. Only two stations of the MALSR system would require replacement/relocation.

Alternative 2 involves less access road relocation, less potential relocation of Wolfe Run Road, and would require only one residential displacement, and less borrow material than Alternative 1; therefore, it has less environmental impacts. However, as set forth in Table 2.3, this Alternative is predicted to carry an additional \$11.5 million in life-cycle maintenance costs, which the Sponsor has indicated would pose a challenge to meet. In addition, there are expected to be operational impacts associated with the EMAS bed. According to FAA Order 5200.9, EMAS may be considered when certain criteria are met including that the runway serves [a critical] aircraft with a maximum takeoff weight (MTOW) of 25,000 pounds or more. Because the critical aircraft at this time has an MTOW that is less than 25,000 pounds, EMAS models are not as accurate for those aircraft. Although heavier jets may operate at MGW on a more regular basis in the future, EMAS is not appropriate for the current aircraft mix; therefore Alternative 2 was dismissed from further consideration.

Alternative 3: No Action. This alternative represents the “No Action” alternative and proposes no runway extension or changes to associated features at MGW. The runway length would remain 5,199 feet and the current operational restrictions and safety concerns at MGW would continue to be in effect at the airport. Both the Airport and the Morgantown community would lose the potential for economic growth and revenue with the runway remaining at its current length. Although the purpose and need of the Proposed Action is not satisfied by the No Action Alternative, it was evaluated throughout the EA for comparison purposes.

Alternative 4: 1,001' Runway 18 Extension with 1000' Runway 18 RSA. This alternative extends the runway by 1,001 feet to the north and provides a 1000-foot full length graded RSA both north and south of the runway providing a total runway length will be 6,200 feet. Alternative 4 includes a parallel taxiway extension by approximately 1,260 feet for a new length of 6,200 feet, relocation of navigational aids, installation of runway/taxiway edge lights, and replacement/relocation of the MALS system. In addition, Alternative 4 would require the construction of a tunnel to convey traffic on State Highway 119 under the runway extension and the demolition of local West Run Road.

Alternative 4 results in less wetland impacts and tree clearing than Alternatives 1 and 2, but more community/property impacts would be incurred due to the existing development to the north of the paved runway on the Runway 18 end. In addition, Alternative 4 includes additional technical/engineering constraints associated with construction of a Route 119 tunnel and demolition of local West Run Road, as well as more economic constraints. Alternative 4 was therefore eliminated from further study.

Alternative 5: 1,001' Runway 18 Extension with 600' Graded Runway 18 RSA using EMAS. This alternative would extend the runway by 1,001 feet to the north and utilize a 600-foot graded RSA and an EMAS providing a total runway length of 6,200 feet. This alternative includes the construction of an EMAS to the north of the paved runway on the Runway 18 end, parallel taxiway extension, relocation of navigational aids, installation of runway and taxiway edge lights, replacement/relocation of MALS system, and construction of an embankment to the north of the paved runway on the Runway 18 end. By utilizing an EMAS, the RSA could be shortened from a 1,000-foot full length graded RSA to a 600-foot graded RSA while still providing a fully compliant standard RSA. The shortened RSA with an EMAS would reduce impacts and costs compared with a fully graded RSA. However, with a standard service life of 10-20 years of an EMAS bed, maintenance costs would be higher than a standard 1,000-foot RSA as proposed in Alternative 4. Similar to Alternative 4, this alternative would require the construction of a tunnel to convey traffic on State Highway 119 under the runway extension and the demolition of local West Run Road.

As discussed above under Alternative 2, EMAS is not appropriate for the current aircraft mix at MGW. Additionally, like Alternative 4, Alternative 5 also results in less wetland impacts and tree clearing than Alternatives 1 and 2, but more community/property impacts would be incurred due to the existing development to the north of the paved runway on the Runway 18 end. Alternative 5 also includes additional technical/engineering constraints associated with construction of a Route 119 tunnel and demolition of local West Run Road, as well as more economic constraints. Alternative 5 was therefore eliminated from further study.

Alternative 6: 500' Runway 18 Extension with 500' Runway 36 Extension. Alternative 6 would extend the runway by 500 feet to the north and 500 feet to the south providing a total runway length of 6,200 feet. It also includes a graded 1000-foot RSA at both ends of the runway. Alternative 6 includes a parallel taxiway extension on both ends, relocation of an existing airport access road, relocation of navigational aids, installation of runway/taxiway edge lights, and replacement/relocation of the MALS system. In addition, Alternative 6 would require the construction of a tunnel to convey traffic on State Highway 119 under the runway extension and the demolition of local West Run Road.

Alternative 6 includes impacts at both the northern and southern ends of the runway and would result in more impacts and engineering constraints than Alternatives 1 and 2, as well as Alternatives 4 and 5. Alternative 6 was therefore eliminated from further study.

Discussion

The attached Final EA with Appendices addresses the effects of the Proposed Action on the human and natural environment, and is made part of this Finding. The following impact analyses provide highlights of the more thorough analyses presented in the Final EA.

Air Quality (Refer to Section 4.1 of the EA)

MGW is located in an attainment area for all criteria pollutants. An air quality emissions inventory was generated for aircraft emissions utilizing Aviation Environmental Design Tool (AEDT) 2b. Construction emissions were also inventoried, which included construction of the runway extension, removal of remnant coal located in an abandoned mine within the adjacent borrow area (Proposed I-68 Commerce Park site), and emissions associated with the transfer of coal for processing utilizing the Environmental Protection Agencies (EPA) MOVES/NONROAD modeling. Emissions were also estimated for burning the remnant coal that is extracted from the borrow area. The total predicted pollutant emissions determined that the Proposed Action results in no significant impact to air quality. While general conformity is not applicable to this project, emissions are below the *de minimis* levels for general conformity for both operations and construction emissions.

Based on the air quality analysis findings, the Proposed Action (including the proposed I-68 Commerce Park), would not result in a significant impact to air quality, nor would either exceed any national ambient air quality standards (NAAQS) set by the EPA.

Biological Resources (Refer to Section 4.2 of the EA)

The Proposed Action and Proposed I-68 Commerce Park site would result in approximately 178 acres of tree clearing. The West Virginia Division of Natural Resources (WVDNR) determined that no rare, threatened, or endangered species/sensitive habitats are within the project area. The United States Fish and Wildlife Service (USFWS) identified the potential for two federally-listed species to occur in the project area, the endangered Indiana bat (*Myotis sodalis*) and the threatened northern long-eared bat (NLEB) (*Myotis septentrionalis*). To avoid incidental take, presence of these species were assumed and a combined Habitat Assessment and Conservation Plan was submitted to the USFWS. Measures developed to offset potential impacts include: 1) where possible, forested impacts will be avoided; 2) mitigation will be provided on-site and off-

site (Fort Martin mitigation site) with roost structures at a 1:1 ratio for each potential primary roost tree lost; 3) artificial roosts will be monitored for two years following installation; 4) no hibernacula will be impacted; 5) best management practices (BMPs) will minimize overall habitat impacts and to protect water quality by implementing approved erosion, sedimentation, and pollution controls during construction; 6) avoiding potential roost trees and impacts in riparian areas by reducing the size of the limits of disturbance (LOD); 7) Planting twenty (20) trees and girdling existing trees at the Fort Martin mitigation site on a 1:1 ratio for each potential roost tree lost at I-68 Commerce and Laurita Parcel; 8) seasonal tree clearing restrictions between November 15 and March 31 for all trees greater than five (5) inches diameter breast height (DBH). The USFWS concurred that it does not anticipate that this project is likely to adversely affect the Indiana bat through the implementation of the developed measures and the NLEB may be affected by the proposed construction and operation of this project. Any take of NLEB occurring in conjunction with these activities that complies with the conservation measures (as outlined in the 4(d) rule), as necessary, is exempted from section 9 prohibitions by the 4(d) rule and does not require site specific incidental take authorization.

Based on the findings listed above, as well as the proposed mitigation efforts, no significant impacts to biological resources would result from the Proposed Action and Proposed I-68 Commerce Park site.

Climate (Refer to Section 4.3 of the EA)

The incremental impact of the proposed action on GHG emissions is the result in an increase Air Carrier and Air Taxi operations at MGW. Accommodation of flights would have otherwise been serviced or based at more distant airports may result in a reduction of fuel use regionally both for aircraft and associated vehicle travel to and from the airport. While improved runway conditions at MGW may in and of itself stimulate new traffic, it is not evident the extent this will occur and it is anticipated that the majority of the increase in aircraft activity will be due to relocated aircraft. In part, the flights from other airports are likely at locations further from travelers intended destinations to the Morgantown area. As a result, the Proposed Action, in all likelihood, would have no significant impact on a global scale and may actually reduce GHG emissions.

The abandoned coal seam and associated waste coal (GOB) material present within the borrow area will be removed. The amount, if any, of suitable coal for burning is not known. It was assumed that approximately 233,450 cubic yards of coal/GOB will be excavated and processed (burned). The total CO₂ emissions associated with the burning of the coal is estimated to be 325,993 tons (295,736 Metric Tons). The amount of generated CO₂ from the burning of coal was compared to the overall emission rates from direct GHG emissions in the state of West Virginia. The EPA reports that approximately 68 million metric tons of CO₂e emissions in West Virginia result from power plants in the state. Compared to the overall direct GHG emissions reported for the state of West Virginia, the amount of produced CO₂ emissions resulting from the coal burning associated with the project is negligible. Furthermore, the assessment assumed the highest amount of available coal for burning and therefore actual emission rates may be lower.

Although the Proposed Action and Proposed I-68 Commerce Park site have the potential to result in greenhouse emissions, they are considered negligible and not result in a significant impact.

Hazardous Materials, Solid Waste, and Pollution Prevention (Refer to Section 4.4 of the EA)

There are no indications of hazardous materials presence that would impact the Morgantown Runway Extension Project. The coal waste is the source of Acid Mine Drainage (AMD) within the tributary that collects the site. The tributary is a feeder to West Run which empties directly into the Monongahela River, located in the most contaminated watershed in Monongalia County. The removal of the abandoned mine will remove most of the source of the AMD and therefore, contribute to the cleanup of the tributary and associated watershed. As the overburden and coal/GOB are removed, the overburden will be placed for the runway extension embankments. Temporary coal/GOB stockpiles will be placed on-site upstream of the existing AMD basins only long enough to allow for shipment to the processing plant.

The Proposed Action is not anticipated to violate or exceed thresholds of significance for hazardous materials, solid waste, and pollution prevention. Under the No Action Alternative, the Monongalia County Development Authority (MCDA) may move forward with construction of the I-68 Commerce Park and re-evaluate the removal of the coal/GOB from the coal seam (e.g., grouting the mine voids under the Commerce Park site versus removal). Removing the remaining coal and GOB will decrease, if not eliminate the current AMD at the site.

Historical, Architectural, Archeological, and Cultural Resources (Refer to Section 4.5 of the EA)

Surveys conducted for the Proposed Action show that no historic resources are present within the area of potential effects (APE) that are listed or eligible for listing in the National Register of Historic Places (NRHP), therefore, there is no potential for impacts to historic resources. The West Virginia State Historic Preservation Office (SHPO) concurred with a determination of no historic properties affected on October 14, 2016, and again on March 1, 2018.

Archaeological assessments for the Proposed Action resulted in the identification of four historic archaeological sites. Only the Laurita Site (46MG312), is recommended as a potentially NRHP-eligible archaeological resource. The SHPO concurred with this recommendation. Subsequent design modification placed the Laurita Site (46MG312), as well as the non-eligible Mine Site (46MG313), outside of the runway extension project limits; therefore, the proposed action will not impact archaeological resources. SHPO concurred with a determination of no historic properties affected on August 23, 2016, and again on March 1, 2018. Although no impacts are anticipated to the Laurita Site (46MG312), all disturbance will be contained 15 meters (50 feet) north and east of the site and demarcated on plans to ensure avoidance of this resource.

Based upon a SHPO finding of no historic properties affected by the proposed undertaking, and avoidance measures for the Laurita Site (46Mg313), no significant impacts to historic, architectural, archeological, and cultural resources would result from the Proposed Action and Proposed I-68 Commerce Park site.

Land Use (Refer to Section 4.6 of the EA)

The Proposed Action and Proposed I-68 Commerce Park is supported in multiple components of the City of Morgantown's *Comprehensive Plan, 2013 Update* objectives, including: Transportation, Economic Development, and Land Management. In addition, the Proposed Action is contained in the current and previous Airport Master Plans. In December 2017 the Monongalia County Commission declared its support for the runway extension project and

approved a letter of support stating the extension would help with new business development near the airport and assist with the West Virginia National Guard Readiness Center and Camp Dawson. On March 22, 2018 West Virginia House Bill 4238 was approved and signed by the Governor allowing county planning commissions to form Joint Comprehensive Hazard Plans with regards to the development of land adjoining airports. The intent is to satisfy FAA regulations and to ensure structures are not built that could interfere with airport use.

The Proposed Action would result in land use changes as part of the seven (7) required residential displacements. The Proposed Action would not result in closer proximity to land uses that may adversely affect aviation operations at MGW (e.g., municipal landfills, wildlife refuges, wetland mitigation, or unrestricted height zoning uses).

Given that the Proposed Action is contained in the city, county, and airport plans, it is considered consistent and compatible with existing and future land uses and zoning. No significant impacts to land use would result from the Proposed Action.

Noise and Noise-Compatible Land Use (Refer to Section 4.7 of the EA)

AEDT Version 2b was utilized to develop the noise analysis. The results of the analysis indicate the Proposed Action would not create a significant noise impact. The total land area exposed 65 Day-Night Average Sound Level (DNL) and greater would increase by 3.9 acres over the timeframe evaluated when compared to the No Action Alternative. The No Action 65+ DNL contour would grow to 423.4 acres. The Proposed Action 65+ DNL contour would grow to 427.3 acres. No individuals or noise sensitive land uses would be exposed to sound levels 65 DNL or greater. Because no individuals or noise sensitive land uses are within the 65 DNL noise contour, no individuals or noise sensitive land uses would receive noise increases of 1.5 dB or greater; therefore, implementation of the Proposed Action would not create a significant noise impact.

Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks (Refer to Sections 4.8 through 4.10 of the EA)

Construction of the runway extension would require partial or full acquisition of fourteen (14) parcels including the relocation of seven (7) residences within the vicinity of Wolfe Run Road. Given the steep terrain of the area and per FAA AC 150/5300-13A *Airport Design*, the fill slopes for the extension range from ratios of 1.5:1 to 1.8:1 to 2:1, making avoidance of these properties impossible. Where displacements are unavoidable, fair and equitable compensatory mitigation will be implemented in accordance with the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646). In order to fully determine the availability of fair and equitable mitigation, it would be necessary to appraise and determine the fair market value of the real property to be acquired. All tenant and owner residential occupants who may be displaced will receive an explanation regarding all available options, including: 1) purchases of replacement housing; 2) rental of replacement housing, either private or public; and 3) moving existing owner-occupied housing to another site (if practicable). The relocation officer also will supply information concerning other state or Federal programs offering assistance to displaced persons and will provide other advisory services as needed in order to minimize hardships to displaced persons in adjusting to a new location. The seven (7) residences are dispersed along Wolfe Run Road and are not located within one single community, rather part of a much larger Mileground community area completely surrounding MGW. Displacement of

seven residences in the context of the overall Mileground community would not result in a substantial change in community tax base nor would it substantially alter the overall community composition. The Proposed Action would result in disruption to local traffic patterns due to the potential relocation of Wolfe Run Road but would not result in the overall reduction of levels of service to the existing roadway network.

The displacement of seven (7) residences is within Census Tract 108 which is a low-income population. Given that this impact is borne solely within a Census Tract showing 37% low-income population, this Environmental Justice impact can be considered disproportionately high and adverse. For those displaced, the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646) ensures that displaced are treated fairly, consistently, and equitably; therefore, no significant impacts to Environmental Justice populations would result from the Proposed Action. The City of Morgantown has hosted numerous public meetings, provided individual notifications, and had one-on-one conversations with the community/impacted residents as part of their outreach efforts. The City is committed to continuing outreach with these property owners throughout the design phase and communicate project schedules, the relocation assistance process, and efforts to minimize environmental/socio-economic impacts.

While Alternative 2 would have required fewer residential acquisitions, that Alternative was determined not to be practicable due to cost and operational impacts. The life-cycle maintenance costs of Alternative were expected to be \$11.5 million more than the Preferred Alternative. Moreover, the Sponsor expressed concern about operational impacts because, according to FAA AC 150/5220-22B, EMAS models are not as accurate for aircraft with a maximum take-off weight of less than 25,000 pounds. The current critical aircraft at MGW has an MTOW that is less than 25,000 pounds. As described in Chapter 2, all of the other action alternatives would have required even greater numbers of residential acquisitions.

The Proposed Action and the Proposed I-68 Commerce Park site would not result in adverse impacts to air, noise, or water quality and there are no schools or other community facilities within the project area; therefore, the Proposed Action would not result in significant, adverse or disproportionate impacts to children's health or safety. In addition, the current AMD from the existing coal/GOB will be reduced or eliminated as a result of removal of the coal/GOB, thereby improving the overall environmental health of the community.

Visual Effects (Refer to Section 4.11 of the EA)

The existing light emissions cause little to no annoyance to the surrounding area due to the location of MGW, approximately 70-100 feet higher than adjacent non-airport property. The Proposed Action will increase the light emissions due to the additional light installation for the runway extension; however, residences would be generally located over 1,000 feet from the proposed runway extension and the steep slopes and higher elevation of MGW would reduce light emission impacts and cause little to no annoyance similar to existing conditions. The Proposed I-68 Commerce Park site is located farther away from nearby residences and not anticipated to result in light emissions. Development/light emissions would be most visible from existing I-68 but would not negatively impact motorists; therefore, the additional lights are not anticipated to have a significant impact on the surrounding areas.

The visual landscape will be altered due to the proposed clearing of trees adjacent to airport property. Given the amount of forested land within the vicinity of the LOD, it is not anticipated to affect the overall nature of the visual character of the area. Permanent impacts to light emissions resulting from the proposed I-68 Commerce Park site are anticipated to be minimal. Although some temporary construction impacts are anticipated from the Proposed Action and Proposed I-68 Commerce Park site, permanent visual impacts will be negligible.

Water Resources (Refer to Section 4-12 of the EA)

Wetlands

Approximately 1.6 acres of palustrine emergent (PEM) wetlands will either be filled for the construction of the runway extension and/or removed as a result of the Proposed I-68 Commerce Park site. Mitigation for impacts to wetlands were calculated using the West Virginia Stream and Wetland Valuation Metric (SWVM). The metric calculated appropriate mitigation ratios for wetland impacts and include a total of 3.21 acres of PEM (which equates to approximately a 2:1 ratio). Wetland mitigation will be designed to complement the riparian zones and can provide water quality functions - recharging groundwater, removing pollutants and flood water storage. Specific details regarding mitigation will have to be approved by the U.S. Army Corps of Engineers (USACE) and the West Virginia Department of Environmental Protection (WVDEP) during the Section 404 Permitting and Section 401 Certification process.

While other alternatives evaluated in the EA would have reduced impacts to wetlands, those alternatives were determined to be not practicable due to either the cost, environmental, or operational impacts. For example, Alternative 4 would have cost \$50 million more than the Preferred Alternative and it would have required the relocation of 32 residential buildings. Further analysis of these alternatives is available in Chapter 2 of the EA.

Under the Proposed Action and the Proposed I-68 Commerce Park site, overall impacts to wetlands would not be significant. Mitigation measures would be carried out through the conditions and terms of the Section 404 permit.

Surface Waters

Approximately 4,624 linear feet of streams will be filled for the construction of the runway extension and/or the proposed I-68 Commerce Park. Because the Proposed Action and Proposed I-68 Commerce Park site has the potential to discharge pollutants into waters of the United States through a point source, a NPDES permit will need to be obtained. A requirement of National Pollutant Discharge Elimination System (NPDES) permits, for both operations and construction activities, is development of a Storm Water Pollution Prevention Plan (SWPPP). In addition, the current AMD from the existing coal/GOB will be reduced or eliminated as a result of removal of the coal/GOB, thereby improving the overall water quality in the surrounding area. Impacts under the Proposed Action and Proposed I-68 Commerce Park site would not be considered significant. Potential measures to mitigate impacts to surface waters under consideration include: 1) Limiting ground disturbance to the areas necessary for project-related construction; 2) Employing erosion control measures to minimize sedimentation of surface waters; 3) Restoring vegetation on disturbed areas to prevent soil erosion following project completion; 4) Developing oil response plans designed to contain any potential spills of oil or oil-based products

associated with the Proposed Action, and/or; 5) Section 404 and 401 permit terms and conditions for minimizing and compensating for impacts to surface waters.

Mitigation for impacts to streams were assessed and calculated using the SWVM. The metric scored channels and found a debit unit score to use for proposed stream mitigation. The total debit score for the stream impacts is 2,534.8 units for the 4,624.4 linear feet of stream. The proposed stream mitigation will include the restoration of Stream S-01 using natural stream design, along with adjacent wetland systems to enhance habitat riparian zones. Currently, S-01 is located in a system of rock gutter cells which appear to be an AMD passive treatment system. Specific details regarding mitigation will have to be approved by the USACE and WVDEP during the permit application review.

Based on implementation of the mitigation measures approved by the USACE and WVDEP during the permitting process, impacts to surface waters under the Proposed Action and Proposed I-68 Commerce Park site would not be considered significant.

Groundwater

The Proposed Action and Proposed I-68 Commerce Park site will involve the addition of fill material to the southern portion of the project area, regrading of the northern portion of the study area, and excavation within the borrow areas of the Proposed I-68 Commerce Park. Maximum excavation depths are expected to range from 55 feet below ground surface (bgs) and 78 feet bgs within the borrow area. Groundwater used for consumption likely exists below the lower limit of excavation; therefore, impacts to deeper groundwater resources within deep confined aquifer systems are not anticipated. In addition, most of the residential areas within the project area are served by a public drinking water source. However, recharge of shallow groundwater may be affected by the addition of impervious pavement for the Proposed Action and the Proposed I-68 Commerce Park site. Additionally, shallow groundwater flow and springs located on the rural/residential properties southeast of the runway extension may potentially be impacted by the regrading of the area around the completed new section of runway. Shallow groundwater resources may also be impacted if petroleum leaks or spills occur from refueling of construction vehicles during the construction phase. Examples of potential measures to mitigate impacts to groundwater under consideration include: 1) Limiting ground disturbance to the areas necessary for project-related construction; 2) Restoring vegetation on disturbed areas to prevent soil erosion and to restore surface water infiltration following project completion; and/or 3) Developing oil response plans designed to contain any potential spills of oil or oil-based products associated with the Proposed Action and Proposed I-68 Commerce Park site.

West Virginia Codes §22-11 and §22-3 establish hydrologic and water quality protection practices to protect groundwater. Under these groundwater rules, coal mining and construction operations are required to implement a groundwater protection plan (GPP) to reduce or eliminate adverse impacts to the groundwater. Prior to construction, a GPP would identify all significant potential groundwater impacts and would allow for the potential impacts to be managed by appropriate BMPs. In addition, stormwater should continue to be managed by appropriate BMPs intended to prevent and/or minimize the potential for groundwater contamination.

Based on implementation of the appropriate BMPs, impacts under the Proposed Action would not be considered significant.

Secondary Impacts (Refer to Section 4.13 of the EA)

The temporary, minor increase in construction-related traffic would not result in a significant impact on local roads. While traffic volumes on roads adjacent to the airport are anticipated to increase, this increase is not expected to result in reduced levels of service.

Under the Proposed Action and Proposed I-68 Commerce Park site, construction activities including land clearing, removal of the coal seam, extension of the runway on new fill, and the leveling of future development sites for the MCDA's I-68 Commerce Park would create alterations of the visual environment. However, the runway embankment will be predominantly planted with low-growing vegetation with some use of rock for slope stabilization. The extracted coal seam areas will be graded, vegetated, and left for development for the I-68 Commerce Park.

Additional flights associated with the Proposed Action would not cause significant air quality, noise, or land use compatibility impacts to the construction or operation of the airport. The Proposed Action would not increase other activities that could potentially add to direct or indirect impacts in these areas (e.g., increased vehicular emissions causing a significant air quality impact); therefore, a significant secondary (induced) impact would not occur.

Cumulative Impacts (Refer to Section 5.0 of the EA)

Past, present, and reasonably foreseeable future actions were evaluated for the potential for cumulative impacts on affected resources. An analysis of the cumulative effects of the Proposed Action in combination with past, present, or reasonably foreseeable future projects MGW is presented in the Final EA and supports the conclusion that adverse cumulative impacts are not likely to result from implementation of the Proposed Action through implementation of project-specific avoidance and minimization measures.

Summary of All Impact Categories

The Final EA addresses all environmental impact categories, as required by FAA Orders 1050.1F, 5050.4B, and the Desk Reference for Airports Actions. Impact categories such as air quality; biological resources; climate; hazardous materials, solid waste, and pollution prevention; historical, architectural, archaeological, and cultural resources; land use; noise and noise-compatible land use; socioeconomics, environmental justice, and children's environmental health and safety risks; visual effects; wetlands; surface water; groundwater; secondary impacts; and cumulative impacts were considered during preparation of and analyses for the Final EA. Coastal resources; Department of Transportation Act, Section 4(f); farmlands; natural resources and energy supply; floodplains, and wild and scenic rivers were either not present or not impacted by the Proposed Action and were not further analyzed in the EA. It is the FAA's finding that the proposed action will not have any significant impacts on any of the above noted categories.

Coordination with the General Public and Agency Coordination

A Notice of Availability of the Draft EA and public workshop was published in The Dominion Post beginning on May 22, 2019. Copies of the Draft EA were made available for review at: Morgantown Municipal Airport, Airport Management Office, 100 Hart Field Road,

Morgantown, WV 26505; City of Morgantown, City Manager's Office, 389 Spruce Street, City Hall, 3rd Floor, Room 15, Morgantown, WV 26505; Morgantown Public Library, 373 Spruce Street, Morgantown, WV 26505; Monongalia County Senior Center, Mountaineer Mall, 5000 Greenbag Road, Suite A5, Morgantown, WV 25605. The Draft EA was also made available for review online at: <http://morgantownwv.gov/534/MGW-Runway-Extension-Project>. A public workshop was held on June 25, 2019, from 5:00 p.m. - 7:00 p.m., in the *Aircraft Rescue & Fire Fighting Facility* (ARFF) Training Room at Morgantown Municipal Airport, 100 Hartfield Road, Morgantown, WV 26505.

Comments were not received from the general public during the Draft EA review period or during the public workshop. Comments were received from the USFWS, WVDEP Division of Air Quality, SHPO, and the Delaware Nation. Received comments concurred with the analysis in the Draft EA. The USFWS stated that they have no comments as long as all avoidance, minimization, and conservation measures for the Indiana bat are adhered to as specified in Section 4.2 and Appendix B. The WVDEP Division of Air Quality stated that the project does not appear to require any pre-construction permits, authorizations, or air quality analysis. The WVDEP also identified various statutes with which the Proposed Action must comply. The SHPO stated that they remain in concurrence with their findings provided thorough project review and the Delaware Nation stated to continue with the project as planned.

Mitigation Measures/ Conditions of Approval

Construction contract specifications developed for the projects shall contain the provisions of FAA Advisory Circular 150/5370-10, "Standards for Specifying Construction of Airports," Item P-156, Temporary Air and Water Pollution, Soil Erosion, and Siltation Control; and Advisory Circular 150/5320-SD, "Airport Drainage Design."

Compliance with the avoidance/mitigation measures developed for impacts to endangered species.

All disturbance must be contained within 15 meters (50 feet) north and east of the Laurita Site (46MG312) and demarcated on plans to ensure avoidance of this resource.

All property acquisitions must be performed in accordance with the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act) (Public Law 91-646, as amended) and FAA Advisory Circular 150/5100-17, Land Acquisition and Relocation Assistance for Airport Improvement Program Assisted Proposed Actions.

Continued coordination with the USACE and WVDEP associated with the approximate 1.6 acres of PEM wetland impacts, and compliance with the final mitigation requirements stipulated by the 401 Water Quality Certification and 404 Individual Permit process.

Continued coordination with the USACE and WVDEP associated with the approximate 4,624 linear feet of stream impacts, and compliance with the final mitigation requirements stipulated by the 401 Water Quality Certification and 404 Individual Permit process.

Continued coordination with the WVDEP in obtaining a NPDES permits for both operations and construction activities, and development of the associated SWPPP.

Develop and implement a groundwater protection plan (GPP) to reduce or eliminate adverse impacts to the groundwater in accordance with West Virginia State Code §22-11 and §22-3.

All required permits and approvals shall be obtained prior to construction of the Proposed Action.

Consistent with applicable orders, policies and guidance, including Council on Environmental Quality (CEQ) Guidance, dated January 14, 2011, "Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact" under NEPA, the FAA understands that the MGW will undertake the necessary actions to ensure that the above conditions and/or mitigation measures are undertaken and that MGW will monitor the implementation and effectiveness of such measures. In some instances, the above conditions are required as a result of coordination and agreement. They do not necessarily reflect impacts that require mitigation to meet FAA standards pursuant to FAA Orders or guidance. As with all projects subject to NEPA, should any conditions change or impacts be discovered that require further NEPA analysis, the FAA will require that a separate analysis, review, and decision be conducted.

Federal Agency Findings

In accordance with all applicable laws, the FAA makes the following findings for the Proposed Action based on all appropriate information and analyses contained in the Final EA:

A. The Proposed Action is reasonably consistent with existing plans of public agencies for development of areas surrounding the airport. (49 U.S.C. §47106(a)(1)). The FAA is satisfied that the Proposed Action is consistent with plans (existing at the time the Proposed Action is approved) of public agencies for development of areas surrounding the airport based on coordination efforts with public agencies as indicated in Appendix B of the Final EA.

B. The interest of the communities in or near where the Proposed Action may be located were given fair consideration. (49 U.S.C. §47106(b)(2)). The FAA is satisfied that the interests of the communities in or near where the Proposed Action will be located were given fair consideration as demonstrated by the Final EA, including Appendix C, Public Involvement.

C. The FAA has given this Proposed Action the independent and objective evaluation required by the Council on Environmental Quality (40 C.F.R. Section 1506.5). The FAA's review and ultimate decision process included the FAA's rigorous exploration and objective evaluation of reasonable alternatives and probable environmental consequences, regulatory agency and Native American consultations, and public involvement. FAA furnished guidance and participated in the preparation of the Final EA by providing input, advice and expertise throughout the planning and technical analyses, along with administrative direction and legal review. FAA has independently evaluated the Final EA and takes responsibility for its scope and content.

D. The Proposed Action will conform to the State Implementation Plan (SIP) in accordance with Section 176 of the Clean Air Act (CAA) and its amendments (42 U.S.C. §7506(c)).

MGW is located in Monongalia County, which is currently designated by the EPA as being in attainment for all criteria pollutants. The Proposed Action conforms to the West Virginia State Implementation Plan and complies with the Clean Air Act Section 176(c)(1). The Proposed Action would not: cause or contribute to any new violation of any standard in any area; increase the frequency or severity of any existing violation of any standard in any area; or delay timely attainment of any standard or any required interim emission reductions or other milestones in any area. While general conformity is not applicable to this project, emissions are below the *de minimis* levels for general conformity (40 C.F.R. Parts 51 and 93) for both operations and construction emissions.

E. There are disproportionately high and adverse environmental effects on minority and/or low-income populations that would result from the Proposed Action. (Executive Order 12898) (U.S. DOT Order 5610.2(a)).

An Environmental Justice assessment was conducted to determine if a disproportionate share of the Proposed Action's potential impacts would be borne by low-income and/or minority populations. The majority of Census Tract 108 is represented by dispersed low income populations. Where displacements are unavoidable, fair and equitable compensatory mitigation will be implemented in accordance with the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act) (Public Law 91-646). The Uniform Act ensures that displacees are treated fairly, consistently, and equitably; therefore, no significant impacts to Environmental Justice populations would result from the Proposed Action.

F. There are no practicable alternatives to the Proposed Action. The Proposed Action includes all practicable measures to minimize harm to wetlands (Executive Order 11990) (U.S.DOT Order 5660.1A). Impacts to wetlands, as well as streams, will be mitigated through coordination with the USACE and WVDEP as part of the permitting process.

Decision and Order

The FAA recognizes its responsibilities under the National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality's (CEQ) implementing regulations, and the FAA's own directives. Recognizing these responsibilities, I have carefully considered the FAA's goals and objectives in relation to the various aeronautical aspects of the MGW *Runway 18-36 Extension Project* as discussed in the Final EA and I have used the environmental process to make a more informed decision. This review included the purpose and need to be served by this Proposed Action and alternative means to achieve them. This review has also included consideration of the environmental impacts of these alternatives, and the mitigation and conditions necessary to preserve and enhance the human environment. This decision is based on a comparative examination of environmental impacts, operational factors, and economic factors for each of the alternatives. The Final EA provides a fair and full discussion of the impacts of the Proposed Action. The NEPA process included appropriate planning and design for avoidance and minimization of impacts, as required by NEPA, the CEQ regulations, other special purpose environmental laws, and appropriate FAA environmental directives and guidance.

The FAA has determined that environmental and other relevant concerns presented by interested agencies and the general public have been addressed in the Final EA. The FAA believes that with respect to the Proposed Action, there are no outstanding environmental issues within FAA jurisdiction to be studied or NEPA requirements that have not been met. In making this determination, the FAA must decide whether to approve the federal actions necessary for Project implementation. FAA approval signifies that applicable federal requirements relating to airport development planning have been met and permits MGW to proceed with development and possibly receive funds for eligible items. Not approving these actions would prevent the MGW from proceeding with this airport development.

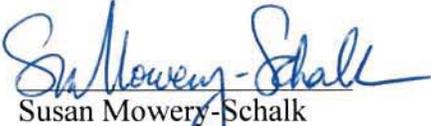
After careful and thorough consideration of the facts contained herein and subsequent to my review of the Final EA and all of its related materials, the undersigned finds that the proposed Federal action is consistent with existing national environmental policies and objectives as set forth in Section 101 of NEPA and other applicable environmental requirements and will not significantly affect the quality of the human environment or otherwise include any condition requiring consultation pursuant to Section 102(2)(C) of NEPA.

This decision does not constitute a commitment of funds under the Airport Improvement Program (AIP); however, it does fulfill the environmental prerequisites for future AIP funding determinations associated with AIP-eligible project components (49 U.S.C. §47107).

Accordingly, pursuant to the authority delegated to me by the Administrator of the FAA, I find that the actions summarized in this FONSI/ROD are reasonably supported and approved. I hereby direct that action be taken together with the necessary related and collateral actions, to carry out the agency actions noted above. Specifically:

1. Unconditional Approval of the MGW ALP to reflect the MGW Runway 18-36 Extension project, pursuant to 49 U.S.C. §40103(b) and §47107(a)(16), and determination of the effects of each of the components comprising the Proposed Action as described above, in the Final EA, and all associated materials upon the safe and efficient utilization of navigable airspace pursuant to 14 C.F.R. Parts 77 and 157 and 49 U.S.C. §44718;
2. Determination under 49 U.S.C. §§40101 (d)(1) and 47105(b)(3) that the proposed project meets applicable design and engineering standards set forth in FAA Advisory Circulars;
3. Determinations concerning funding through the Federal grant-in-aid program authorized by the Airport and Airway Improvement Act of 1982, as amended (recodified at 49 U.S.C. §47107);
4. Determination under 49 U.S.C. §44502(b) that the airport development is reasonably necessary for use in air commerce or in the interests of national defense;
5. Continued close coordination with MGW, the City of Morgantown, and appropriate FAA program offices, as required, to ensure safety during construction (14 C.F.R. Part 77);

6. Approval of appropriate amendments to the MGW Airport Certification Manual (ACM), as required, pursuant to 49 U.S.C. §44706.

Approved:  10/24/19
Date
Susan Mowery-Schalk
Acting Director, Airports Division
Federal Aviation Administration
Eastern Region

Disapproved: _____ Date
Susan Mowery-Schalk
Acting Director, Airports Division
Federal Aviation Administration
Eastern Region

Right of Appeal

This FONSI/ROD presents the Federal Aviation Administration's findings and final decision and approvals for the actions identified, including those taken under the provisions of Title 49 of the United States Code, Subtitle VII, Parts A and B.

Any party having a substantial interest may appeal this order to the United States Court of Appeals for the District of Columbia Circuit or in the court of appeals of the United States for the circuit in which the person resides or has its principal place of business, upon petition filed within 60 days after entry of this order in accordance with 49 U.S.C. §46110.

Any party seeking to stay the implementation of this ROD must file an application with the FAA prior to seeking judicial relief, as provided in rule 1 8(a) of the Federal Rules of Appellate Procedure.

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- Appendix D** Floodplain
- Appendix E** Air Quality Analysis
- Appendix F** Climate Analysis
- Appendix G** Historic Resources
- Appendix H** Archaeological Resources

Volume III

- Appendix I** Noise Analysis
- Appendix J** Wetlands
- Appendix K** Runway Justification Study & RSA Determination Study
- Appendix L** Bat Habitat Survey and Conservation Plan
- Appendix M** Proposed I-68 Commerce Park Site: AMD Treatment Facilities and Stockpile Locations

1.0 INTRODUCTION

Morgantown Municipal Airport (MGW), also known as Walter L. Bill Hart Field, is a public airport that is owned and operated by the City of Morgantown, West Virginia. The Airport is located within the city's limits and is situated west of Exit 7 of I-68, and east of US 119 as shown on **Exhibit 1-1**. The Airport can be accessed via Hart Field Road, which connects to US 119 and provides access between the Airport, Route 705, and I-68 to the east. US 119 also connects the Airport to areas south and west of the Airport, including West Virginia University (WVU) as well as downtown Morgantown.

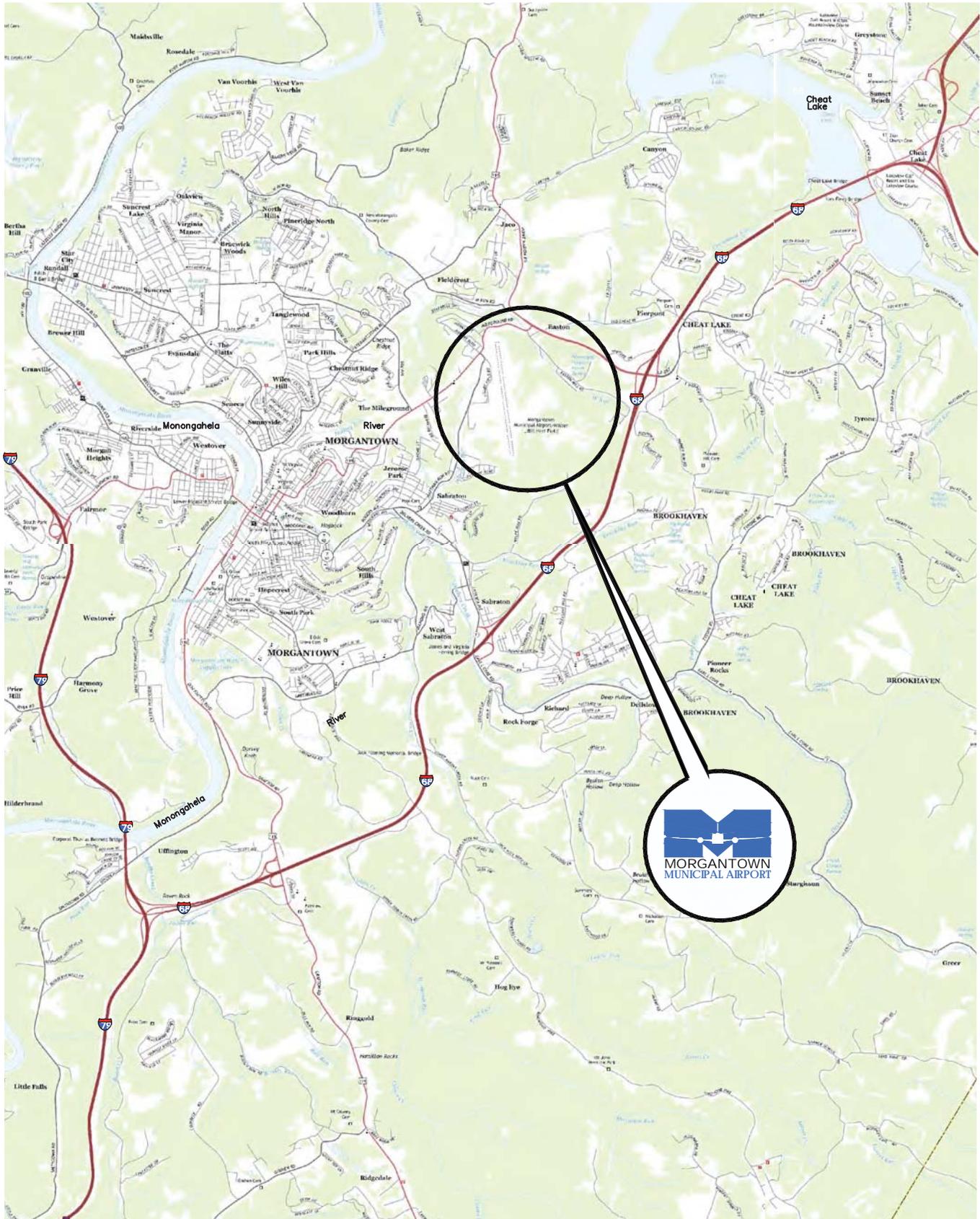
Currently, the Airport encompasses approximately 550 acres and is served by the 5,199-foot Runway 18-36. It is classified as a primary commercial service airport by the Federal Aviation Administration (FAA) National Plan of Integrated Airport Systems, and also is certified by FAA as an Air Carrier Airport. According to the 2017 Terminal Area Forecast (TAF), MGW had 6,147 total enplanements and 49,602 operations (excluding military) which is the most of any airport in West Virginia. Commercial service is provided to/from Baltimore/Washington International Thurgood Marshall Airport (BWI) and Pittsburgh International Airport on a daily basis along with corporate jet service and charter flights.

MGW provides aviation support activity to Camp Dawson, located in Kingwood, West Virginia, by serving as an arrival/departure point for personnel and military flight training activities. According to the FAA Operations Network (OPSNET)¹, annual military operations ranged from 3,027 in 1996 to 2,602 in 2017, with highest operations reported in 2008 with 5,176.

1.1 Purpose of this Environmental Assessment

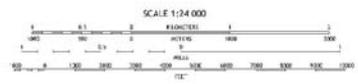
The City of Morgantown is preparing this Environmental Assessment (EA) for a proposed 1,001-foot extension to Runway 18-36. This EA was undertaken by the City to fulfill the requirements necessary for compliance with the *National Environmental Policy Act of 1969 (NEPA) its implementing regulations promulgated by the Council on Environmental Quality at 40 CFR 1400 et seq., FAA Order 1050.1F, Environmental Impacts: Policies and Procedures, and FAA Order 5050.4B, NEPA Implementing Instructions for Airport Actions.*

¹ FAA OPSNET Airport Operations: Standard Report (01/1996 to 11/2017)



Morgantown Municipal Airport
Environmental Assessment

Exhibit 1-1 Vicinity Map



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1.2 Proposed Action

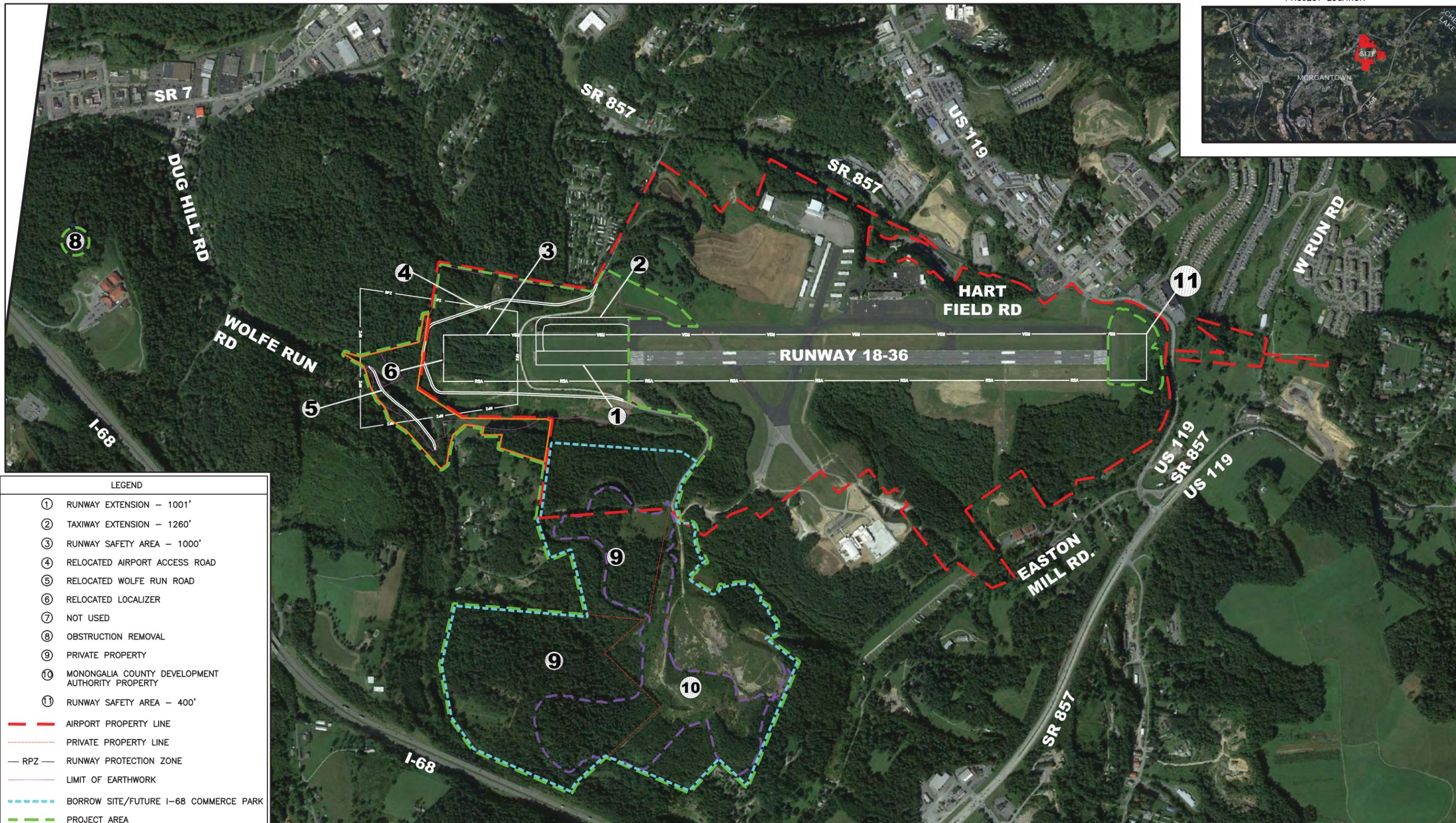
The Proposed Action for this EA is an approved change to the Airport Layout Plan (ALP). The proposed changes to the ALP include the 1,001-foot extension to the southern end of Runway 18-36 for a total runway length of 6,200 feet. Airport Improvement Program (AIP) funds may be considered for this project. The project area examined in this EA encompasses areas on and within the vicinity of the airport that will be included as part of the Proposed Action as well as a connected action adjacent to the airport property. The project area, shown in **Exhibits 1-2 and 1-3**, encompasses approximately 335 acres. With the extension of the Runway, it will necessitate several other modifications as listed below:

- 1,260 feet parallel taxiway extension;
- 4,740 linear feet of relocated Airport Access Road;
- 1,000 feet of Runway Safety Area (RSA) on the Runway 36 end;
- Additional 200 feet of RSA on the 18 end for a total RSA length of 400 feet;
- Relocation of 2 Medium Approach Light System (MALSR) Light Stations;
- Relocation of existing Localizer;
- Removal of Visual Approach Slope Indicator (VASI) and relocated/replaced with Precision Approach Path Indicators (PAPI);
- Relocation of the Runway Protection Zone (RPZ);
- Installation of Runway and Taxiway Edge Lights;
- Relocation of 1,160 linear feet of Wolfe Run Road²;
- Acquisition and relocation of 7 (seven) residences;
- Obstruction removal south of Runway 18-36;
- Acquisition of borrow material (approximately 4.4 million cubic yards) for the runway extension and embankment; and
- Development of new runway approaches to Runway 36 and Runway 18.

The Proposed Action would be constructed as a collaborative effort between the FAA (Lead Agency), City of Morgantown (Airport Owner), MGW (Airport), WVU (Stakeholder), and the Monongalia County Development Authority (MCDA) (Land owner of the Proposed I-68 Commerce Park site).

Specific characteristics of the EA project area are discussed in the “Affected Environment” section (**Chapter 3.0**) with impacts discussed in the “Environmental Consequences and Mitigation” section (**Chapter 4.0**).

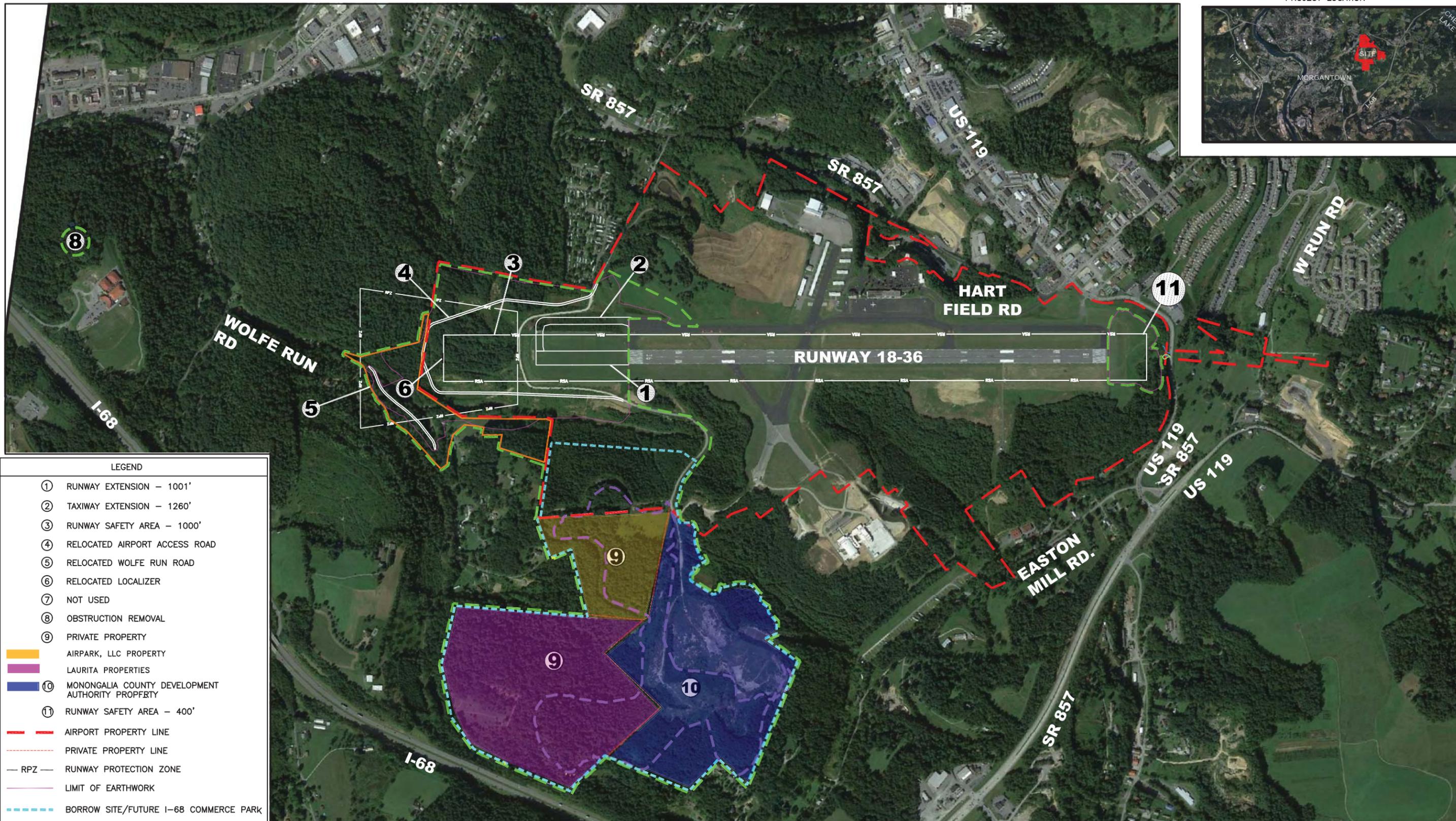
² As detailed design continues, the relocation of Wolfe Run Road may not be required as part of the Proposed Action thereby reducing costs as well as socio-economic and stream impacts.



LEGEND

- ① RUNWAY EXTENSION - 1001'
 - ② TAXIWAY EXTENSION - 1260'
 - ③ RUNWAY SAFETY AREA - 1000'
 - ④ RELOCATED AIRPORT ACCESS ROAD
 - ⑤ RELOCATED WOLFE RUN ROAD
 - ⑥ RELOCATED LOCALIZER
 - ⑦ NOT USED
 - ⑧ OBSTRUCTION REMOVAL
 - ⑨ PRIVATE PROPERTY
 - ⑩ MONONGALIA COUNTY DEVELOPMENT AUTHORITY PROPERTY
 - ⑪ RUNWAY SAFETY AREA - 400'
- AIRPORT PROPERTY LINE
 - PRIVATE PROPERTY LINE
 - RPZ — RUNWAY PROTECTION ZONE
 - LIMIT OF EARTHWORK
 - BORROW SITE/FUTURE I-68 COMMERCE PARK
 - PROJECT AREA
 - COAL/GOB REMOVAL AREA
 - LIMIT OF PROPERTY ACQUISITION





LEGEND

- ① RUNWAY EXTENSION – 1001'
- ② TAXIWAY EXTENSION – 1260'
- ③ RUNWAY SAFETY AREA – 1000'
- ④ RELOCATED AIRPORT ACCESS ROAD
- ⑤ RELOCATED WOLFE RUN ROAD
- ⑥ RELOCATED LOCALIZER
- ⑦ NOT USED
- ⑧ OBSTRUCTION REMOVAL
- ⑨ PRIVATE PROPERTY
- AIRPARK, LLC PROPERTY
- LAURITA PROPERTIES
- ⑩ MONONGALIA COUNTY DEVELOPMENT AUTHORITY PROPERTY
- ⑪ RUNWAY SAFETY AREA – 400'
- AIRPORT PROPERTY LINE
- PRIVATE PROPERTY LINE
- RPZ — RUNWAY PROTECTION ZONE
- LIMIT OF EARTHWORK
- BORROW SITE/FUTURE I-68 COMMERCE PARK
- PROJECT AREA
- COAL/GOB REMOVAL AREA
- LIMIT OF PROPERTY ACQUISITION



Morgantown Municipal Airport
Environmental Assessment

Exhibit 1-3
Property Boundary Mapping



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1.2.1 Connected Actions

In accordance with FAA Order 5050.4B, actions that are closely related to the Proposed Action may be considered Connected Actions which will be evaluated and assessed throughout this EA.

In 2014, the City of Morgantown completed the *Morgantown Municipal Airport: Proposed Release of Landside Development Area – Environmental Assessment* for a 95-acre Landside Development Site for transfer to the MCDA. MCDA will develop the site, referred to as the “Proposed I-68 Commerce Park” (and referred to hereafter) for business park use. It is uncertain if development of the Proposed I-68 Commerce Park would occur if the Proposed Action was not implemented. The amount of fill material (borrow) required for the Proposed Action is available on the Proposed I-68 Commerce Park site, from adjacent private property, and onsite (MGW property) (**Exhibits 1-2 and 1-3**). Off-site alternatives for borrow material were evaluated and determined to be substantially higher in cost³ than obtaining the material from adjacent properties.

The Proposed I-68 Commerce Park, adjoining private property, and portions of the airport property are underlain by an abandoned mine in the Pittsburgh Coal Seam. Excavation of the borrow material will be above and approximately six feet below the abandoned mine and therefore the mine must be removed. Appropriate funding sources for the abandoned mine removal will be evaluated as the design of the project is refined. Since the excavation of borrow material and abandoned mine removal are triggered by the Proposed Action, both are considered Connected Actions to the project. The abandoned mine removal process is discussed in more detail below.

1.2.1.1 Abandoned Mine Removal

The Pittsburgh Coal Seam was previously deep-mined from the early 1900s – 1930s and later strip mined between the 1930s – 1960s. The remaining coal seam in the abandoned mine is now mostly waste coal or GOB⁴ material and some pillars and stumps. The Abandoned Mine Reclamation Clearinghouse states, “These coal refuse piles (also called waste coal, GOB, culm, boney, or slate dumps) are composed of other minerals extracted incidentally along with coal. However, the process that separated the waste from coal was imperfect, so the piles invariably contain some coal as well.”⁵ Examples of waste coal include fine coal, coal obtained from a refuse bank or slurry dam, anthracite culm, bituminous GOB, and lignite waste.⁶ Waste coal is referred

³ Preliminary estimates were prepared to evaluate the associated costs off off-site providers and it is anticipated cost of excavated material and delivery would range between \$4.00 and \$7.00 per Cubic Yard of material thereby increasing the overall project cost between \$17 million and \$30 million dollars. However, detailed cost estimates of off-site borrow material depend on the local construction economy. The bids for off-site material will be more competitive if there are available reserves within a reasonable proximity to the Project Area and not many projects requiring the same material.

⁴ Term applied to that part of the mine from which the coal has been removed and the space more or less filled up with waste.

⁵ Abandoned Mine Reclamation Clearinghouse. *Burning Waste Coal in CFB Power Plants*. “GOB Piles”

⁶ U.S. Energy Information Administration. *Glossary*. “Waste Coal”. Accessed 1/14/16 at <http://www.eia.gov/tools/glossary/index.cfm?id=w>.

to as "culm" in the Eastern Pennsylvania anthracite fields and as "GOB" or "boney" in the bituminous coal mining regions.⁷

The remaining coal seam is the source of the acid mine drainage (AMD) of the tributary that collects the site. The tributary is a feeder to West Run which empties directly into the Monongalia River, located in the most contaminated watershed in Monongalia County. The Pittsburgh Seam dips in a northwest direction, draining the abandoned mine into the tributary and causing the AMD as seen today. The removal of the coal/GOB will remove the majority of the source of the AMD and, therefore, will substantially contribute to the cleanup of the tributary and associated watershed.

For the Proposed Action, the process to remove the coal/GOB is to first remove the overburden material and use it as fill for the runway extension or site development. The coal/GOB will be separated from the overburden and then removed and stockpiled by quality to be trucked to the processing plants⁸. While the overburden and coal/GOB are being removed and separated, the existing AMD treatment facilities⁹ will continue to treat the AMD from the site.

As the overburden is removed, it will be placed for the runway extension embankment. All coal/GOB will be removed from the abandoned mine. Temporary coal/GOB stockpiles will be placed on site upstream of the existing AMD facilities where embankment material was removed for a previous RSA expansion project that occurred in 2003. This area can accommodate the removal and stockpile of approximately 50,000 cubic yards of material. Refer to **Appendix M** for additional details regarding the AMD sites and stockpile locations. From this point, the contractor will permanently remove the coal/GOB stockpiles from the project site. The overburden areas will be leveled and pads created for development of the Proposed I-68 Commerce Park site by the MCDA.

1.2.1.2 Permitting

The coal/GOB removal is incidental to the Proposed I-68 Commerce Park and the MCDA received an Incidental Removal permit exemption through the West Virginia Department of Environmental Protection (WVDEP) Office of Mining and Reclamation for the entire abandoned mine

⁷ Energy Justice Network. *Waste Coal*. Burning Waste Coal is Much More Polluting than Burning Coal." Accessed 1/14/18 at <http://www.energyjustice.net/coal/wastecoal/>.

⁸ Any proceeds from the selling of useable coal will be completed in accordance with agreements that will be authorized during the design phase of the project. All royalties from the sale of coal on and off airport property will be at Fair Market Value and will be restricted solely to airport use. It is also anticipated that the MCDA will enter into a coal removal agreement with the contractor that will specify all of the major requirements of the contractor, including but not limited to adherence to the lease and compliance with all applicable laws and permit requirements.

⁹ The City of Morgantown received a grant to install the AMD treatment system at the Proposed I-68 Commerce Park site in conjunction with the development of the Access Road to the Readiness Center. Construction was completed in early 2016. The AMD treatment system consists of three limestone leach beds, a fresh water storage pond, a steel slag leach bed, and a settling pond to treat the AMD from the abandoned mine drainage on the site. The grant also documented the City of Morgantown's commitment to the continued proper operation and maintenance of the facilities.

(Appendix M). The permit exemption was received in January 2016 and the National Pollutant Discharge Elimination System (NPDES) permit is anticipated to be approved by April 2019. In September 2016, Bat Conservation Plans (BCP) were submitted to the USFWS for required bat mitigation

(Appendix L). The project will require wetland and stream mitigation; therefore, a Jurisdictional Determination (JD) package was submitted to the Army Corps of Engineers (ACOE) and the WVDEP in September 2016 (see **Appendix J**). A response from the ACOE was received on October 25, 2016. Mitigation plans will be submitted and approved, as part of the permit package, prior to borrow excavation for the runway.

1.3 Existing Runway 18-36

MGW has one runway, 18-36, which is 5,199 feet long and 150 feet wide. The runway is marked with precision runway markings and is equipped with high intensity runway edge lights. There is one full parallel taxiway, Taxiway A, which is 75 feet wide.

Runway 18-36 has instrument approaches to both ends of Runway 18-36. The Runway 18 approach is a precision approach utilizing an Instrument Landing System and MALSR Light Stations. A four box PAPI also provides visual guidance for pilots approaching Runway 18. The Runway 36 approach is a non-precision instrument approach utilizing GPS. A four box VASI provides visual guidance on alignment. The localizer for the Runway 18 approach is located on the 36 end of the runway beyond the 36 safety area.

1.4 Existing Runway Safety Areas (RSA)

FAA AC 150/5300-13A, *Airport Design*, defines a RSA as a “defined surface surrounding the runway prepared or suitable for reducing the risk of damage to aircraft in the event of an undershoot, overshoot, or excursion from the runway.” The *Master Plan Update* for MGW, completed in December 2012, classified the existing runway as Aircraft Approach Category C and Airplane Design Group II. For a C-II airport, FAA AC 150/5300-13A states that a full standard graded RSA shall have a length of 1,000 feet beyond the runway end and a width of 500 feet. Currently, the south end of the runway meets this criteria with a full standard graded RSA having a length of 1,000 feet and a width of 500 feet. The north RSA at MGW is currently 200 feet in length, with a 500-foot width. An *RSA Determination Study* has been prepared as part of this project to evaluate the feasibility of increasing the northern safety area length. The *RSA Determination Study* is attached in **Appendix K**.

1.5 Purpose and Need

1.5.1 Purpose for the Proposed Action

In accordance with the FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions* and FAA Order 1050.1F, *Environmental Impacts*:

Policies and Procedures, the following section discusses the purpose and need for the Proposed Action and the associated benefits.

The existing 5,199-foot runway length at MGW does not allow many corporate jet operators to fly at their desired performance capabilities in terms of flight distances (i.e., stage lengths) and passenger capacities. Therefore, the Purpose of the Proposed Action is to extend Runway 18-36 to a length that would best satisfy the requirements of the Critical Aircraft currently operating at MGW.

FAA Advisory Circular (AC) 150/5000-17, *Critical Aircraft and Regular Use Determination*, indicates that “the Critical Aircraft is the most demanding aircraft type, or grouping of aircraft with similar characteristics, that makes regular use of the airport. Regular use is 500 annual operations, including both itinerant and local operations but excluding touch-and-go operations. An operation is either a takeoff or landing.” In conjunction with this EA, a *Runway Extension Justification Study* (Justification Study) was prepared which indicated that the most demanding grouping of corporate jets with similar characteristics need a landing distance of 6,200 feet in both directions on Runway 18-36 (refer to **Appendix K**). FAA concurred on the Justification Study in January 2018. The study was prepared in accordance with FAA AC 150/5325-4B, *Runway Length Requirements for Airport Design* (Runway length AC). Therefore, the Proposed Action includes the extension of the runway from 5,199 feet to 6,200 feet and ensuring that sufficient RSA is provided to allow for a landing distance of 6,200 feet in both directions on Runway 18-36.

According to FAA AC 150/5300-13A, *Airport Design*, an RSA is “A defined surface surrounding the runway prepared for the risk of damage to aircraft in the event of an undershoot, overshoot, or excursion from the runway.” Pursuant to FAA Order 5200.8 – *Runway Safety Area Program*, any significant or substantial runway extension project, triggers the need to conduct a Runway Safety Area Determination (RSAD). Therefore, the Proposed Action includes RSA improvements to enhance safety for aircraft operations at MGW specifically to the turf RSA immediately north of Runway 18 as outlined in the RSAD. Those include incremental improvement measures in the form of grading that can feasibly be conducted at this time to improve safety.

1.5.2 Need for the Proposed Action

As mentioned, the Need for the Proposed Action is documented in the Justification Study that is provided in **Appendix K**. Furthermore, the incremental improvement measures that can be conducted to the turf RSA immediately north of Runway 18-36 are identified in the RSAD in **Appendix K**. Both of those documents are summarized in this section to describe the Need for the Proposed Action.

The runway extension will provide a number of safety enhancements at MGW. The Accelerate Stop Distance (ASDA) and the Landing Distance Available (LDA) would be increased for both departing and landing aircraft. The ASDA would give pilots more distance and time to make a decision to continue with the takeoff, or abort the takeoff and safely stop the aircraft in the event

of an emergency during the takeoff roll. The LDA would also give pilots more time and distance to safely land the aircraft, decelerate and stop safely in the event of an emergency.

Per FAA Order 5200.8, *Runway Safety Area Program*, federally obligated CFR Part 139 certified airports are required, to the extent practicable, to have an RSA conforming to the standards in AC 150/5300-13A, *Airport Design*. For a C-II airport, full standard graded RSA has a length of 1,000 feet beyond the runway end and a width of 500 feet, centered along the runway centerline. Currently, the south end of the runway meets this criteria with a full standard graded RSA and, based on the findings of the RSAD, will continue to provide a standard RSA as part of the runway extension. The RSAD also concluded that a 400 feet RSA to the north was the most practicable alternative to satisfy both the safety of the airport users and the needs of the growing airport.

1.5.3 Benefits of Proposed Action

In addition to the Federal purpose and need stated above, the proposed project would also serve a number of local considerations for development at MGW. An extension of the existing runway would provide aircraft operators with greater flexibility flying in and out of MGW. According to records from FAA TAF, MGW experienced 49,602 operations in 2017 (excluding military) and was the busiest airport in the State of West Virginia. The existing length of Runway 18-36 is 1,551 feet shorter than any other commercial airport in the state and the airport is located in the fastest growing economic area in the state where access to a capable aviation facility is critical for continued growth.

The existing runway length at MGW does not allow many existing and potential airport users to maximize their desired performance capabilities for corporate jet operations. This was found to be the case for corporate jet landings when Runway 18-36 is wet because of added safety factors that must be applied in accordance with federal law. In many cases, corporate jet operators simply avoid flying into and out of MGW because they cannot fulfill their mission requirements (i.e., desired passenger load plus the fuel required to fly to their desired destination). Through a survey effort that was conducted for the Justification Study, it was found that one operator recently sold a Learjet because they could not utilize the aircraft the way in which they wanted to do so at MGW. Other individuals suggested they might transition from a turboprop to a corporate jet, but the decision to do so would be based on the timing of a runway extension project.

Overall, the information in the Justification Study demonstrates a minimum length of 6,200 feet for Runway 18-36¹⁰ to achieve operational needs of the existing family of critical aircraft, as stated in **Section 1.5.1**. Such a runway length would also help to better fulfill the desired mission requirements for many corporate jet operators that utilize MGW on a regular basis. The FAA concurred with the information in the Justification Study in January 2018.

¹⁰ Coordination with the agencies, public, etc. has occurred throughout the planning process. During the earlier stages of planning, the study evaluated a 1,401-foot runway extension to 6,660 feet. Since that time, and completion/approval of the Justification Study, the runway length was modified to a 1,001-foot runway extension. Coordination, as appropriate, has occurred with agency representatives regarding the updated Proposed Action and overall project area.

Based on the findings described in the **Section 1.5.3**, the overall benefits of the Proposed Action include:

- Support economic growth measures currently being promoted by the City of Morgantown
- Greater flexibility and higher level of safety flying in and out of MGW
- Fulfill the desired mission requirements for many corporate jet operators that utilize MGW on a regular basis
- Provide a number of safety enhancements at MGW

1.6 Requested Federal Action

This EA presents the evaluation of impacts to the environment and provides a detailed review of the Proposed Action and is submitted in accordance with the Council of Environmental Quality (CEQ) Regulations for *Implementing the Procedural Provisions of the National Environmental Policy Act*. The Requested Federal Action is the approval of the change to the MGW ALP which will extend Runway 18-36 from its current length of 5,199 feet to a total length of 6,200 feet. Associated improvements include the Runway 18 and 36 RSA, relocation of NAVAIDS, relocation of the RPZ, installation of the runway/taxiway edge lights, relocation of Airport Access Road and Wolfe Run Road¹¹, and new runway approaches.

1.7 Timeframe of Proposed Action

Design for the Proposed Action would be finished upon issuance of a Finding of No Significant Impact (FONSI) by the FAA for the project. Construction is anticipated to be initiated in October 2019 after all Federal, State, and local permits and approvals are granted. It is anticipated that the extension of the runway pavement will be constructed in two phases. The initial phase constructing approximately 550 feet of new pavement is anticipated to be operational in the 3rd or 4th quarter of 2020 and the full extension is anticipated to be operational in the 3rd or 4th quarter of 2024.

¹¹ As detailed design continues, the relocation of Wolfe Run Road may not be required as part of the Proposed Action thereby reducing costs as well as socio-economic and stream impacts.

2.0 ALTERNATIVES

An alternatives analysis has been completed through a multi-level screening analysis to determine those reasonable alternatives for continued evaluation in the EA. Alternatives that are not reasonable or do not meet the purpose and need will not be further evaluated. The formulation of alternatives follows FAA Order 5050.4B, *National Environmental Policy Act Implementing Instructions for Airport Projects*, and the FAA *Environmental Desk Reference for Airport Actions*, and FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures Guidelines*, which requires comparing the environmental impacts of alternatives under consideration.

2.1 Preliminary Alternative Screening

During the initial stage of this study, preliminary alternatives were developed which considered runway extension lengths to both the north (Runway 18) and south (Runway 36) (**Table 2.1**). This section provides a description and analysis of preliminary alternatives considered in terms of meeting the identified purpose and need for the Proposed Action (see **Section 1.4, Purpose and Need**). All preliminary alternatives screened included the Connected Actions associated with the Proposed I-68 Commerce Park.

Table 2.1 • Preliminary Alternative Screening

Alternative	Description	Meet Project Purpose and Need?
Declared Distance	<ul style="list-style-type: none"> Extend runway to total of 6,800 feet Landing Safety Area extension at both ends of runway 	NO
Alternative 1	<ul style="list-style-type: none"> 1,001' Runway 36 Extension (Southern Extension) 1000' Runway 36 Graded RSA 400' Runway 18 Graded RSA Connected Action (Proposed I-68 Commerce Park) 	YES
Alternative 2	<ul style="list-style-type: none"> 1,001' Runway 36 Extension (Southern Extension) 600' Runway 36 Graded RSA using EMAS 400' Runway 18 Graded RSA Connected Action (Proposed I-68 Commerce Park) 	YES
Alternative 3	<ul style="list-style-type: none"> No Action Alternative 	NO
Alternative 4	<ul style="list-style-type: none"> 1,001' Runway 18 Extension (Northern Extension) 1,000' Runway 18 Graded RSA Connected Action (Proposed I-68 Commerce Park) 	YES
Alternative 5	<ul style="list-style-type: none"> 1,001' Runway 18 Extension (Northern Extension) 600' Runway 18 Graded RSA using EMAS Connected Action (Proposed I-68 Commerce Park) 	YES
Alternative 6	<ul style="list-style-type: none"> 500' Runway 36 Extension (Southern) 500' Runway 18 Extension (Northern) 1000' Runway 36 Graded RSA 1000' Runway 18 Graded RSA Connected Action (Proposed I-68 Commerce Park) 	YES

Prior to commencing planning activities for the project, the *Morgantown Municipal Airport Master Plan Update* (December 2012) identified a potential alternative, the Declared Distance Alternative, that would Pave Safety Areas and Utilize Declared Distances (Master Plan Alternative II).¹² This alternative proposed to extend the runway to a total length of 6,800 feet end to end and utilize declared distances to provide adequate safety areas on each runway end (**Exhibit 2-1 and 2-2**). The Runway 18 landing area was proposed to be extended approximately 400 feet providing a total of 600 paved feet of landing safety area. The extension of the safety area prior to the Runway 18 threshold would require embankment construction as well as construction of a retaining wall approximately 90 feet high. It would also require the conversion of two light stations for the MALSR to be converted to in-pavement stations. In addition, this Alternative identified the existing safety area behind Runway 36 to be paved to approximately 1,000 feet to provide take off run. Landing distance available would be 5,200 feet and departure length would be 5,800 for each runway end.

Required runway length is determined in accordance with FAA Advisory Circular 150/5324-4B, based on the critical design aircraft that make substantial use of the runway for an established planning period of at least five years. The landing distance available under the Declared Distance Alternative as described in the *2012 Master Plan Update* was not sufficient for critical aircraft and did not meet the needs of the Airport. The Declared Distance Alternative did not meet the Proposed Action purpose and need for addressing safety and therefore not evaluated as part of the detailed alternative screening process.

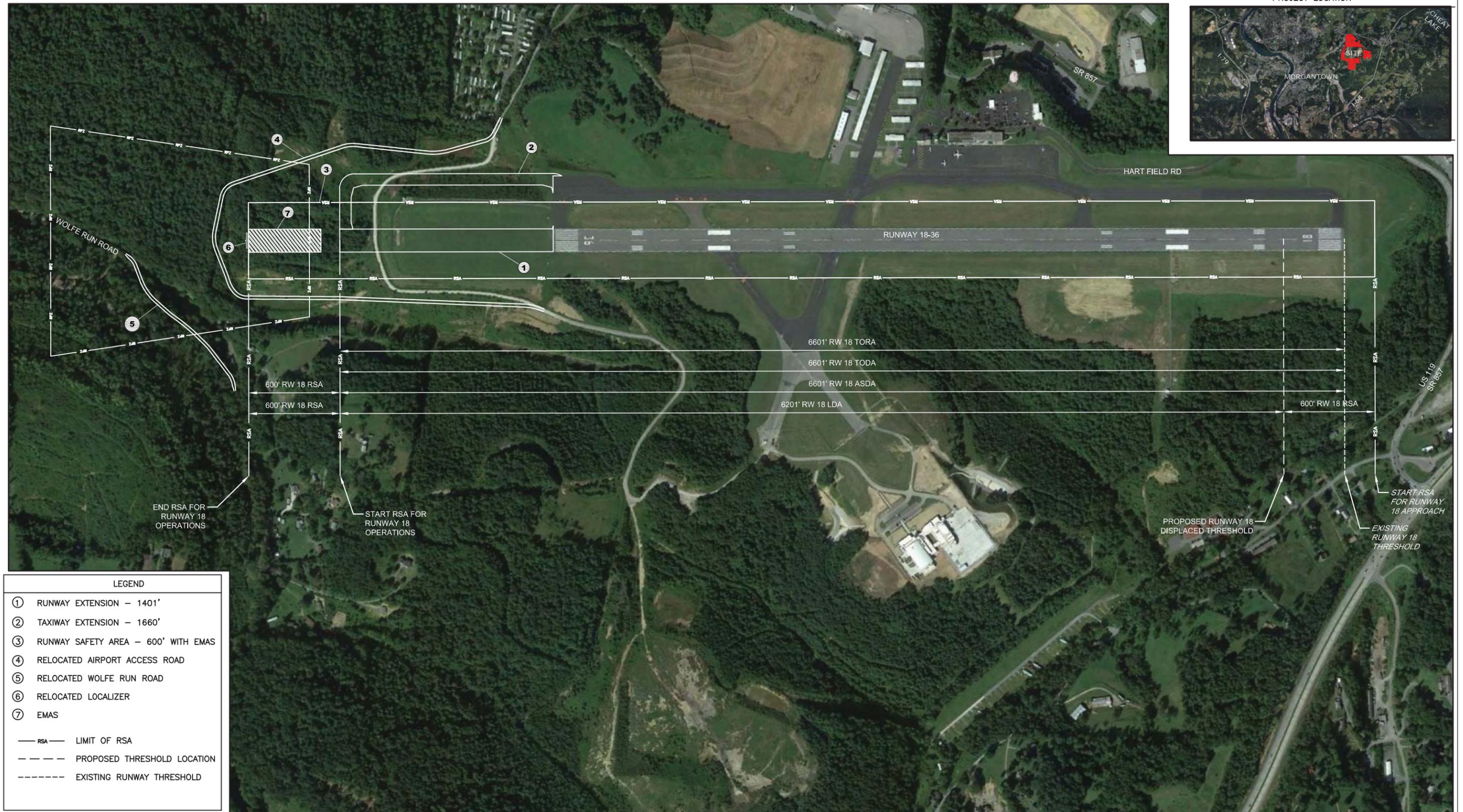
Although the purpose and need of the Proposed Action is not satisfied by the No Action Alternative, it will be evaluated throughout the EA for comparison purposes in accordance with FAA order 1050.1F. Therefore, Preliminary Alternatives 1 through 6 were carried forward for additional screening to determine if they are reasonable from a technical, environmental, and economic standpoint.

Other Considerations During Preliminary Alternative Screening

All of the preliminary alternatives necessitate the need for fill/borrow material to complete construction of the Proposed Action (see **Section 1.2**). Preliminary evaluations included obtaining the material off-site as well as from the adjacent property associated with the Proposed I-68 Commerce Park site. Preliminary cost estimating was completed to quantify the additional costs from off-site sources and it was determined that it would be sustainably cost prohibitive. It is anticipated cost of excavated material and delivery would range between \$4.00 and \$7.00 per Cubic Yard of material thereby increasing the overall project cost between \$17 million and \$30 million dollars. Therefore, it was not considered in greater detail and not associated with any of the evaluated alternatives.

¹² Declared Distance: Effective runway distances available for take-off run, take-off distance, accelerate stop distance, and landing distance requirements.

PROJECT LOCATION



LEGEND

- ① RUNWAY EXTENSION - 1401'
 - ② TAXIWAY EXTENSION - 1660'
 - ③ RUNWAY SAFETY AREA - 600' WITH EMAS
 - ④ RELOCATED AIRPORT ACCESS ROAD
 - ⑤ RELOCATED WOLFE RUN ROAD
 - ⑥ RELOCATED LOCALIZER
 - ⑦ EMAS
- RSA — LIMIT OF RSA
 - - - - - PROPOSED THRESHOLD LOCATION
 - - - - - EXISTING RUNWAY THRESHOLD

- **Takeoff Run Available (TORA)** - Length of runway declared available to accelerate from brake release to lift off, plus safety factors
- **Takeoff Distance Available (TODA)** - TORA plus the length of any remaining runway or clearway beyond the far end of the TORA available to accelerate from brake release past lift-off to start of take-off climb plus safety factors
- **Accelerate-Stop Distance Available (ASDA)** - Length of runway plus stopway declared available and suitable to accelerate from brake release to take-off decision speed, then decelerate to a stop, plus safety factors
- **Landing Distance Available (LDA)** - Distance from threshold to complete the approach, touchdown, and decelerate to a stop, plus safety factors

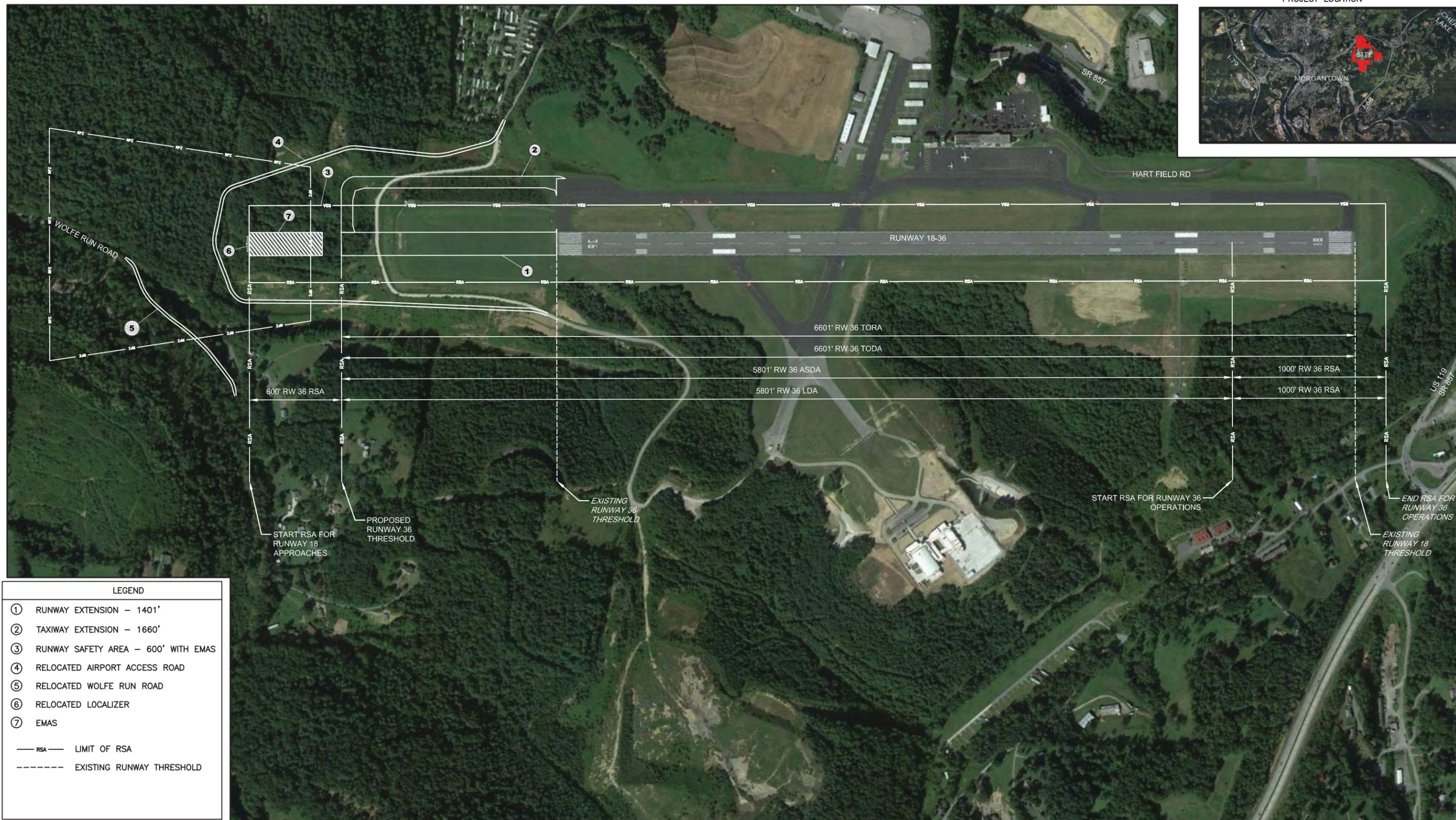


Morgantown Municipal Airport
 Environmental Assessment

Exhibit 2-1
Proposed Declared Distances
For Runway 18 Operations

Michael Baker INTERNATIONAL

0 300 600
 SCALE IN FEET



LEGEND

- ① RUNWAY EXTENSION - 1401'
- ② TAXIWAY EXTENSION - 1660'
- ③ RUNWAY SAFETY AREA - 600' WITH EMAS
- ④ RELOCATED AIRPORT ACCESS ROAD
- ⑤ RELOCATED WOLFE RUN ROAD
- ⑥ RELOCATED LOCALIZER
- ⑦ EMAS

— RSA — LIMIT OF RSA
 - - - - - EXISTING RUNWAY THRESHOLD

- **Takeoff Run Available (TORA)** - Length of runway declared available to accelerate from brake release to lift off, plus safety factors
- **Takeoff Distance Available (TODA)** - TORA plus the length of any remaining runway or clearway beyond the far end of the TORA available to accelerate from brake release past lift-off to start of take-off climb plus safety factors
- **Accelerate-Stop Distance Available (ASDA)** - Length of runway plus stopway declared available and suitable to accelerate from brake release to take-off decision speed, then decelerate to a stop, plus safety factors
- **Landing Distance Available (LDA)** - Distance from threshold to complete the approach, touchdown, and decelerate to a stop, plus safety factors



Morgantown Municipal Airport
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Exhibit 2-2
 Proposed Declared Distances
 For Runway 36 Operations

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0 300 600
 SCALE IN FEET

2.2 Detailed Alternatives Analysis

Except for Alternative 3 (No Action Alternative), Alternatives 1-6 met the purpose and need of the Proposed Action and were carried forward for detailed analysis. All alternatives were screened and impacts quantified to evaluate each alternative based on the same criteria (**Table 2.2**). A description of these alternatives and results of the screening are described below and depicted on **Exhibits 2-3** through **2-8**.

Alternative 1: 1,001' Runway 36 Extension with 1000' Runway 36 RSA/ 400' Runway 18 RSA

Alternative 1 extends the runway by 1,001 feet to the south and provides a fully graded 1000' RSA at the Runway 36 end and 400' graded RSA at the Runway 18 end (**Exhibit 2-3**). The total runway length will be 6,200 feet.

This alternative includes a parallel taxiway extension (by approximately 1,260 feet for a new length of 6,200 feet), relocation of an existing airport access road, relocation of Wolfe Run Road¹³, relocation of navigational aids, installation of runway and taxiway edge lights, relocation of the localizer, and construction of an embankment at both ends of the runway. Only two stations of the MALSR system would require replacement/relocation.

Obstruction removal (1.6 acres) south of Runway 36 would be required as well as the acquisition of seven residential properties. Approximately 178 acres of clearing (i.e., tree clearing and grubbing) would be required. Streams and wetlands will be impacted and will require permitting and mitigation. Approximately 4.4 million cubic yards of fill (or borrow) material will be required to construct the runway extension and embankments. This material will come from the adjacent property site to be developed for the Proposed I-68 Commerce Park site, adjacent private property, and on airport property.

The estimated construction cost for Alternative 1 is \$30.1 million. This cost only represents construction costs, and includes the runway and taxiway extension, Airport Access Road relocation, relocation of navigational aids, installation of runway and taxiway edge lights, relocation of the localizer, construction of the embankments, earthwork, and relocation of Wolfe Run Road. It does not include costs associated with design, coal extraction, property acquisition, or mitigation or the costs associated with development of the Proposed I-68 Commerce Park site.

¹³ As detailed design continues, the relocation of Wolfe Run Road may not be required as part of the Proposed Action thereby reducing costs as well as socio-economic and stream impacts.

Alternative 2: 1,001' Runway 36 Extension with 600' Graded RSA using EMAS/ 400' Runway 18 RSA

Alternative 2 represents a runway extension of 1,001 feet to the south utilizing an Engineered Materials Arresting System (EMAS)¹⁴ rather than with a fully graded RSA (**Exhibit 2-4**). The total runway length will be 6,200 feet. Alternative 2 is similar to Alternative 1 and includes a 400-foot Graded RSA on the Runway 18 end, but utilizes an EMAS bed and a shortened overall RSA at the 36 end of the runway. The use of EMAS is an alternative to providing 1,000 feet of safety area beyond the end of runway for overshoots. It consists of cellular pavement-like material that collapses around the landing gear of the aircraft. The shortened RSA with an EMAS will reduce impacts and costs compared with a full graded RSA. However, with a standard service life of 10-20 years of an EMAS bed, maintenance costs would be higher than a standard 1,000-foot RSA as proposed in Alternative 1.

By utilizing an EMAS, the RSA can be shortened from a 1,000-foot full length graded RSA to a 600-foot graded RSA while still providing a compliant standard RSA.

Similar to Alternative 1, this action includes a parallel taxiway extension (to 6,200 feet), relocation of an existing airport access road, relocation of navigational aids, installation of runway and taxiway edge lights, relocation of the localizer, and construction of an embankment at both ends of the runway. Only two stations of the MALSR system would require replacement/relocation. Fill/borrow material, totaling approximately 2.4 million cubic yards, will be required for the runway extension and embankments. There will also be obstruction removal south of Runway 36 (1.6 acres) and the acquisition of one residential property. Approximately 157 acres of clearing (i.e., tree clearing and grubbing) would be required. Streams and wetlands will be impacted.

The cost for Alternative 2 is approximately \$30.8 million. This cost only represents construction cost and includes the runway and taxiway extension, Airport Access Road relocation, replacement/relocation of two MALSR stations, relocation of navigational aids, installation of runway/taxiway edge lights, embankment construction, earthwork, and the relocation of Wolfe Run Road. It does not include costs associated with design, coal extraction mitigation or acquisition of property or the costs associated with development of the Proposed I-68 Commerce Park site.

Alternative 3: No Action

Alternative 3 represents the "No Action" alternative and proposes no runway extension or changes to associated features at MGW (**Exhibit 2-5**). The runway length would remain 5,199 feet and the current operational restrictions and safety concerns at MGW would continue to be in effect at the airport. Both the Airport and the Morgantown community would lose the potential for economic growth and revenue with the runway remaining at its current length.

¹⁴ An EMAS is defined in FAA Advisory Circular No. 150/5220-22A as "high energy absorbing materials of selected strength, which will reliably and predictably crush under the weight of an aircraft."

Alternative 3 would not require the purchase of properties surrounding the airport nor would it require clearing additional areas or any road relocation.

Alternative 4: 1,001' Runway 18 Extension with 1000' Runway 18 RSA

Alternative 4 extends the runway by 1,001 feet to the north and provides a 1000-foot full length graded RSA (**Exhibit 2-6**). The total runway length will be 6,200 feet.

Alternative 4 includes a parallel taxiway extension (by approximately 1,260 feet for a new length of 6,200 feet), relocation of navigational aids, installation of runway/taxiway edge lights, and replacement/relocation of the MALSR system. In addition, Alternative 4 would require the construction of a tunnel to convey traffic on State Highway 119 under the runway extension and the demolition of local West Run Road.

No obstruction removal would be required as part of this alternative, however, both residential (32 buildings) and one commercial building would be impacted as well as approximately 26 acres of undeveloped land. Approximately 150 acres of clearing (i.e., tree clearing and grubbing) would be required. Streams and wetlands will be impacted and will require permitting and mitigation. Approximately 8.9 million cubic yards of embankment material will be required to construct the runway extension.

The estimated construction cost for Alternative 4 is \$82.7 million. This cost only represents construction costs, and includes the runway and taxiway extension, relocation of navigational aids, replacement/relocation of the MALSR stations, installation of runway and taxiway edge lights, construction of the embankment, construction of Route 119 tunnel, demolition of West Run Road, and earthwork. It does not include costs associated with design, coal extraction, property acquisition, or mitigation or the costs associated with development of the Proposed I-68 Commerce Park site.

Alternative 5: 1,001' Runway 18 Extension with 600' Graded Runway 18 RSA using EMAS

Alternative 5 extends the runway by 1,001 feet to the north and utilizes 600-foot graded RSA and utilizes an EMAS (**Exhibit 2-7**). The total runway length will be 6,200 feet.

This alternative includes the construction of an EMAS at the 18 end of the runway, parallel taxiway extension, relocation of navigational aids, installation of runway and taxiway edge lights, replacement/relocation of MALSR system, and construction of an embankment at the 18 end of the runway. By utilizing an EMAS, the RSA can be shortened from a 1,000-foot full length graded RSA to a 600-foot graded RSA while still providing a fully compliant standard RSA. The shortened RSA with an EMAS will reduce impacts and costs compared with a full graded RSA. However, with a standard service life of 10-20 years of an EMAS bed, maintenance costs would be higher than a standard 1,000-foot RSA as proposed in Alternative 4.

Similar to Alternative 4, this alternative would require the construction of a tunnel to convey traffic on State Highway 119 under the runway extension and the demolition of local West Run Road.

No obstruction removal would be required as part of this alternative, however, both residential (31 buildings) and one commercial building would be impacted and impact approximately 22 acres of undeveloped land. Approximately 150 acres of clearing (i.e., tree clearing and grubbing) would be required. Streams and wetlands will be impacted and will require permitting and mitigation. Approximately 7.6 million cubic yards of embankment material will be required to construct the runway extension.

The estimated construction cost for Alternative 5 is \$87.5 million. This cost only represents construction costs, and includes the runway and taxiway extension, relocation of navigational aids, replacement/relocation of the MALSR stations, installation of runway and taxiway edge lights, construction of the embankments, construction of Route 119 tunnel, demolition of West Run Road, installation of an EMAS bed, and earthwork. It does not include costs associated with design, coal extraction, property acquisition, or mitigation or the costs associated with development of the Proposed I-68 Commerce Park site.

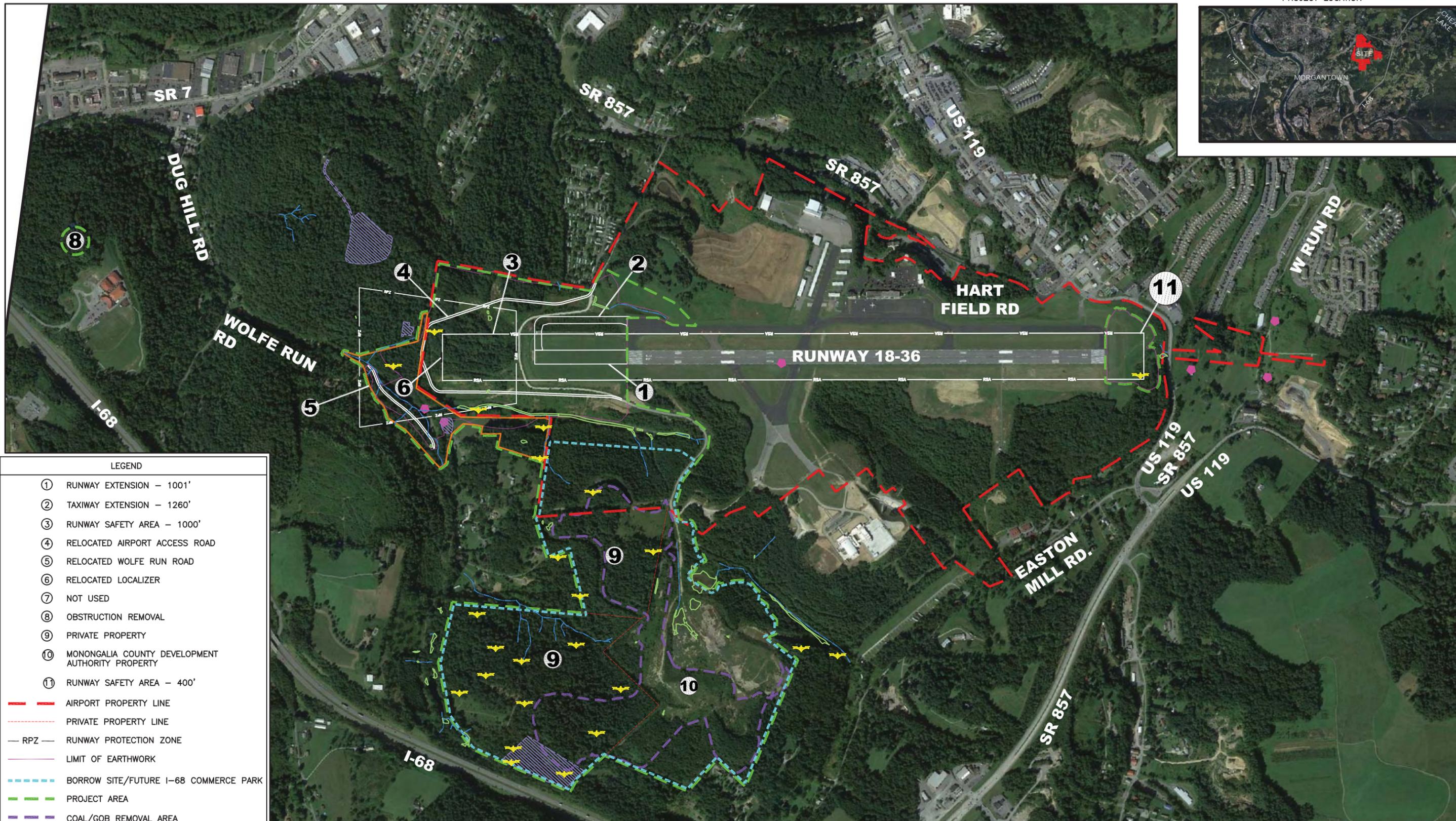
Alternative 6: 500' Runway 18 Extension with 500' Runway 36 Extension

Alternative 6 extends the runway by 500 feet to the north and 500 feet to the south (**Exhibit 2-8**). The total runway length will be 6,200 feet. It also includes a graded 1000-foot RSA at both ends of the runway. The total runway length will be 6,200 feet.

Alternative 6 includes a parallel taxiway extension (on both ends), relocation of an existing airport access road, relocation of navigational aids, installation of runway/taxiway edge lights, and replacement/relocation of the MALSR system. In addition, Alternative 6 would require the construction of a tunnel to convey traffic on State Highway 119 under the runway extension and the demolition of local West Run Road.

No obstruction removal would be required as part of this alternative, however, 19 residential buildings would be impacted as well as approximately 19 acres of undeveloped land. Approximately 162 acres of clearing (i.e., tree clearing and grubbing) would be required. Streams and wetlands will be impacted and will require permitting and mitigation. Approximately 7.9 million cubic yards of fill (or borrow) material will be required to construct the runway extension and embankment.

The estimated construction cost for Alternative 5 is \$77.5 million. This cost only represents construction costs, and includes the runway and taxiway extension, relocation of navigational aids, replacement/relocation of the MALSR stations, installation of runway and taxiway edge lights, construction of the embankment, construction of Route 119 tunnel, demolition of West Run Road, and earthwork. It does not include costs associated with design, coal extraction, property acquisition, or mitigation or the costs associated with development of the proposed I-68 Commerce Park site.



LEGEND

- ① RUNWAY EXTENSION - 1001'
- ② TAXIWAY EXTENSION - 1260'
- ③ RUNWAY SAFETY AREA - 1000'
- ④ RELOCATED AIRPORT ACCESS ROAD
- ⑤ RELOCATED WOLFE RUN ROAD
- ⑥ RELOCATED LOCALIZER
- ⑦ NOT USED
- ⑧ OBSTRUCTION REMOVAL
- ⑨ PRIVATE PROPERTY
- ⑩ MONONGALIA COUNTY DEVELOPMENT AUTHORITY PROPERTY
- ⑪ RUNWAY SAFETY AREA - 400'
- AIRPORT PROPERTY LINE
- PRIVATE PROPERTY LINE
- RPZ — RUNWAY PROTECTION ZONE
- LIMIT OF EARTHWORK
- BORROW SITE/FUTURE I-68 COMMERCE PARK
- PROJECT AREA
- COAL/GOB REMOVAL AREA
- LIMIT OF PROPERTY ACQUISITION
- ◆ IDENTIFIED HISTORIC RESOURCES*
- ▨ ARCHAEOLOGICAL RESOURCES*
- SURVEYED STREAMS
- SURVEYED WETLANDS
- ◆ SURVEYED OR ASSUMED BAT HABITAT

* Surveyed Historic and Archaeological Resources present within the project area were determined not eligible for the National Register of Historic Places (NRHP); the West Virginia Division of Culture and History (WVDCH) concurred with these determinations and therefore no impacts to historic or archaeological resources would be affected.

Morgantown Municipal Airport
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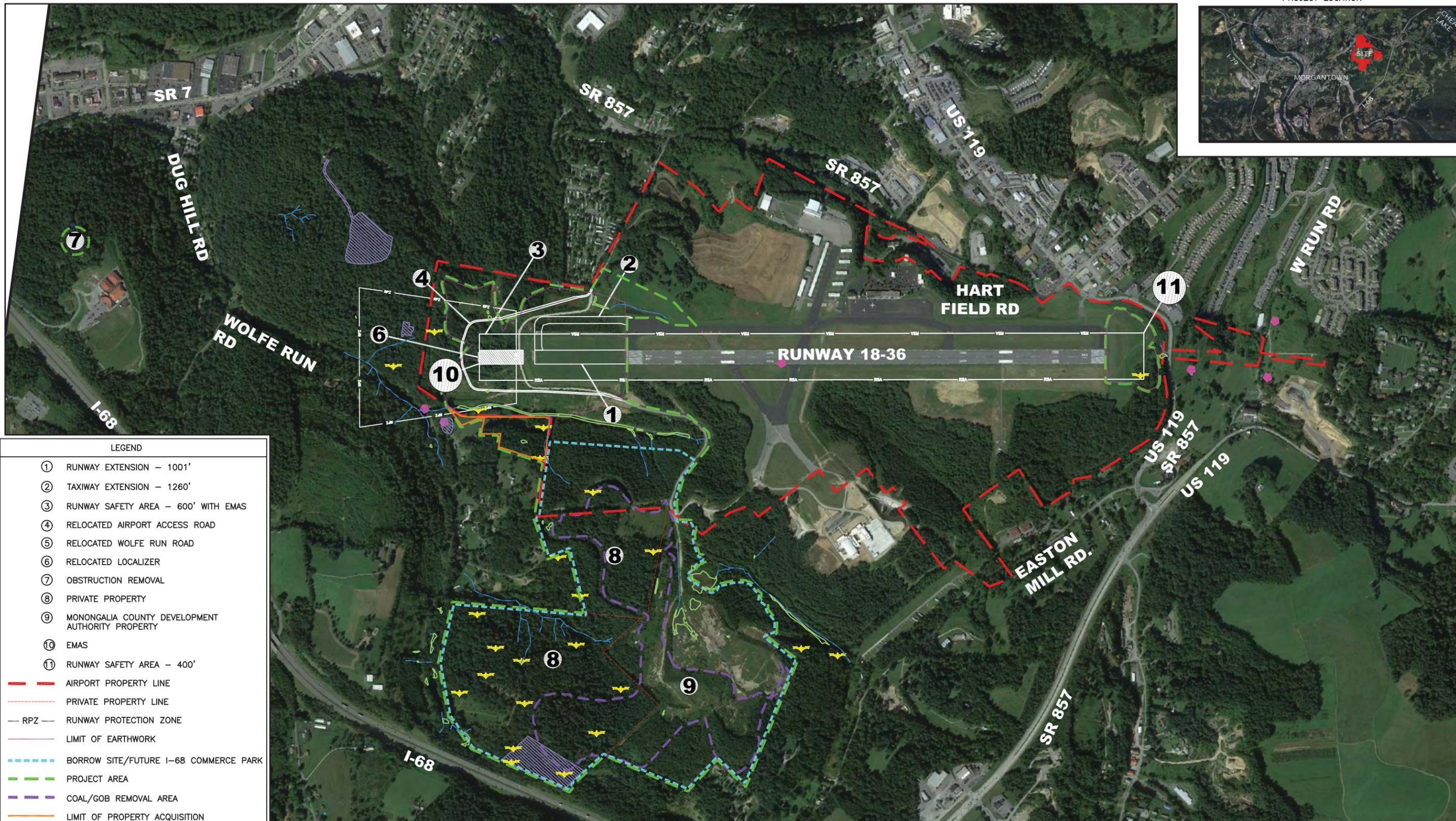
Exhibit 2-3

Alternative 1 (Proposed Action)



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LEGEND

- ① RUNWAY EXTENSION - 1001'
- ② TAXIWAY EXTENSION - 1260'
- ③ RUNWAY SAFETY AREA - 600' WITH EMAS
- ④ RELOCATED AIRPORT ACCESS ROAD
- ⑤ RELOCATED WOLFE RUN ROAD
- ⑥ RELOCATED LOCALIZER
- ⑦ OBSTRUCTION REMOVAL
- ⑧ PRIVATE PROPERTY
- ⑨ MONONGALIA COUNTY DEVELOPMENT AUTHORITY PROPERTY
- ⑩ EMAS
- ⑪ RUNWAY SAFETY AREA - 400'
- AIRPORT PROPERTY LINE
- PRIVATE PROPERTY LINE
- RPZ — RUNWAY PROTECTION ZONE
- LIMIT OF EARTHWORK
- BORROW SITE/FUTURE I-68 COMMERCE PARK
- PROJECT AREA
- COAL/GOB REMOVAL AREA
- LIMIT OF PROPERTY ACQUISITION
- ◆ IDENTIFIED HISTORIC RESOURCES*
- ▨ ARCHAEOLOGICAL RESOURCES*
- SURVEYED STREAMS
- SURVEYED WETLANDS
- SURVEYED OR ASSUMED BAT HABITAT

* Surveyed Historic and Archaeological Resources present within the project area were determined not eligible for the National Register of Historic Places (NRHP); the West Virginia Division of Culture and History (WVDCH) concurred with these determinations and therefore no impacts to historic or archaeological resources would be affected.



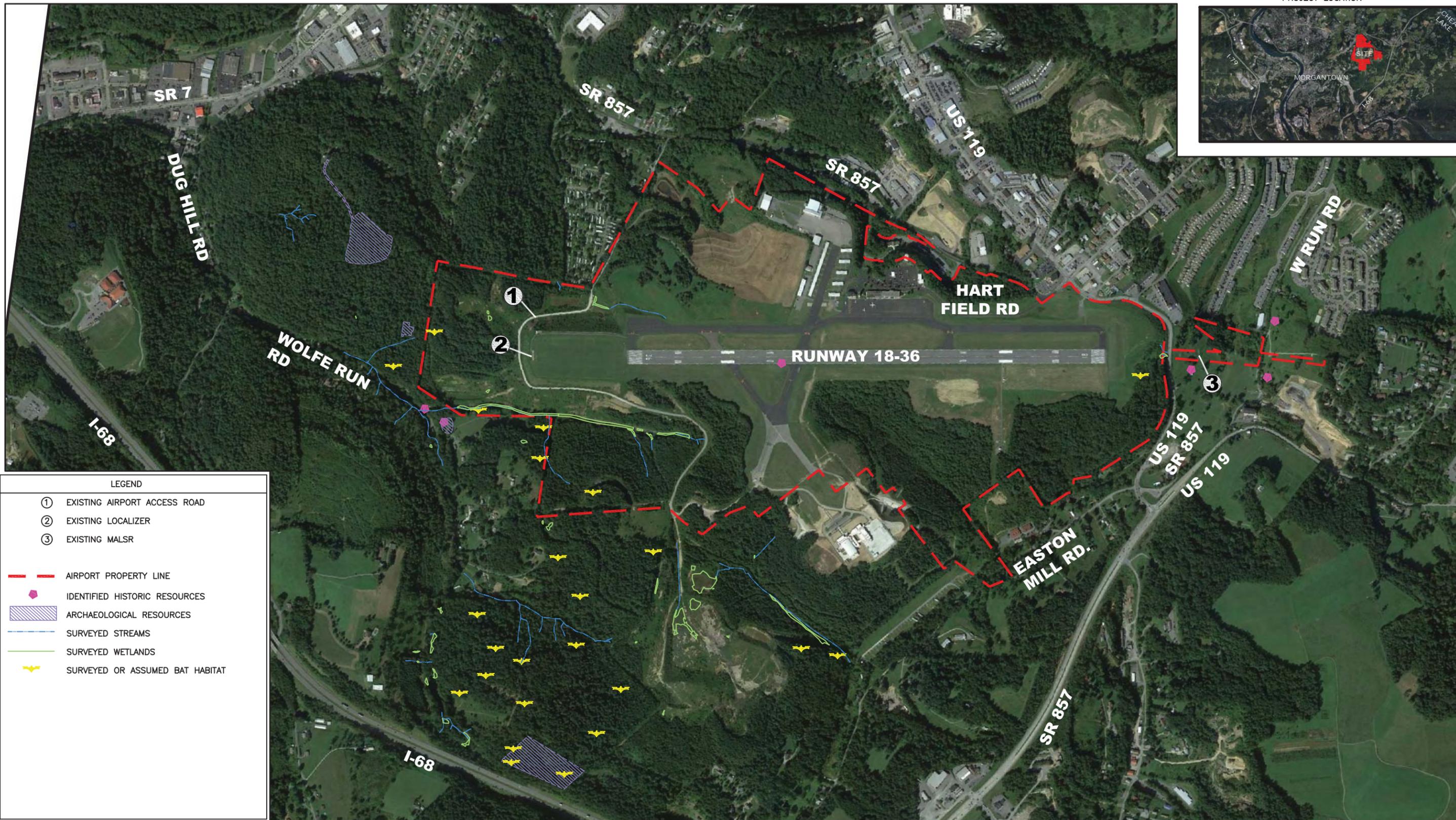
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Exhibit 2-4
Alternative 2



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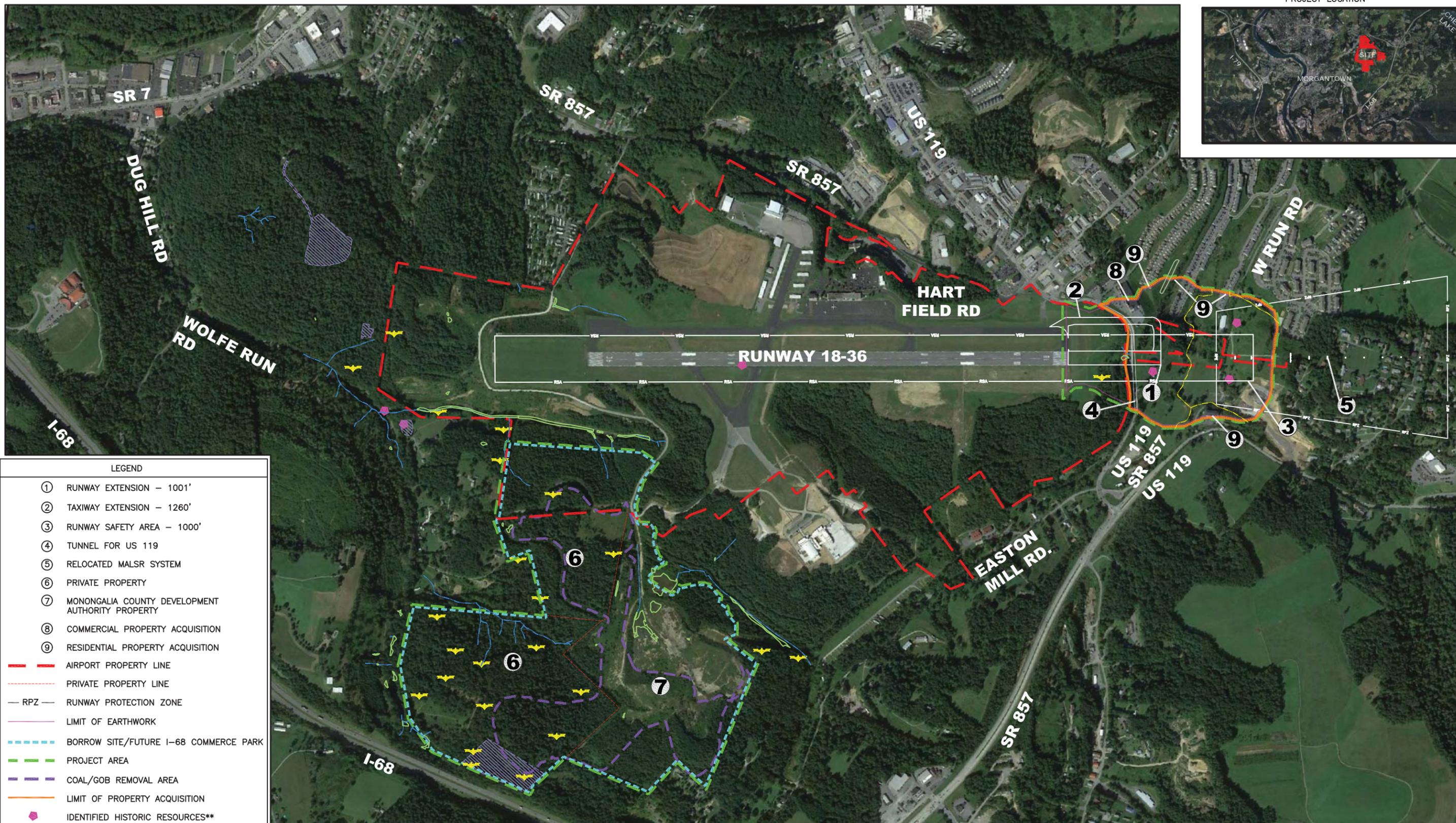




LEGEND

- ① EXISTING AIRPORT ACCESS ROAD
- ② EXISTING LOCALIZER
- ③ EXISTING MALS

- AIRPORT PROPERTY LINE
- ◆ IDENTIFIED HISTORIC RESOURCES
- ▨ ARCHAEOLOGICAL RESOURCES
- SURVEYED STREAMS
- SURVEYED WETLANDS
- ↘ SURVEYED OR ASSUMED BAT HABITAT



LEGEND	
①	RUNWAY EXTENSION - 1001'
②	TAXIWAY EXTENSION - 1260'
③	RUNWAY SAFETY AREA - 1000'
④	TUNNEL FOR US 119
⑤	RELOCATED MALSRS SYSTEM
⑥	PRIVATE PROPERTY
⑦	MONONGALIA COUNTY DEVELOPMENT AUTHORITY PROPERTY
⑧	COMMERCIAL PROPERTY ACQUISITION
⑨	RESIDENTIAL PROPERTY ACQUISITION
	AIRPORT PROPERTY LINE
	PRIVATE PROPERTY LINE
	RPZ - RUNWAY PROTECTION ZONE
	LIMIT OF EARTHWORK
	BORROW SITE/FUTURE I-68 COMMERCE PARK
	PROJECT AREA
	COAL/GOB REMOVAL AREA
	LIMIT OF PROPERTY ACQUISITION
	IDENTIFIED HISTORIC RESOURCES**
	ARCHAEOLOGICAL RESOURCES**
	SURVEYED STREAMS
	SURVEYED WETLANDS
	WV SAMB STREAMS
	WV SAMB WETLANDS
	SURVEYED OR ASSUMED BAT HABITAT*

* Bat surveys were not conducted for the entire northern study area of this alternate; therefore, detailed information regarding impacts are unavailable.

** Surveyed Historic and Archaeological Resources present within the project area were determined not eligible for the National Register of Historic Places (NRHP); the West Virginia Division of Culture and History (WVDCH) concurred with these determinations and therefore no impacts to historic or archaeological resources would be affected.



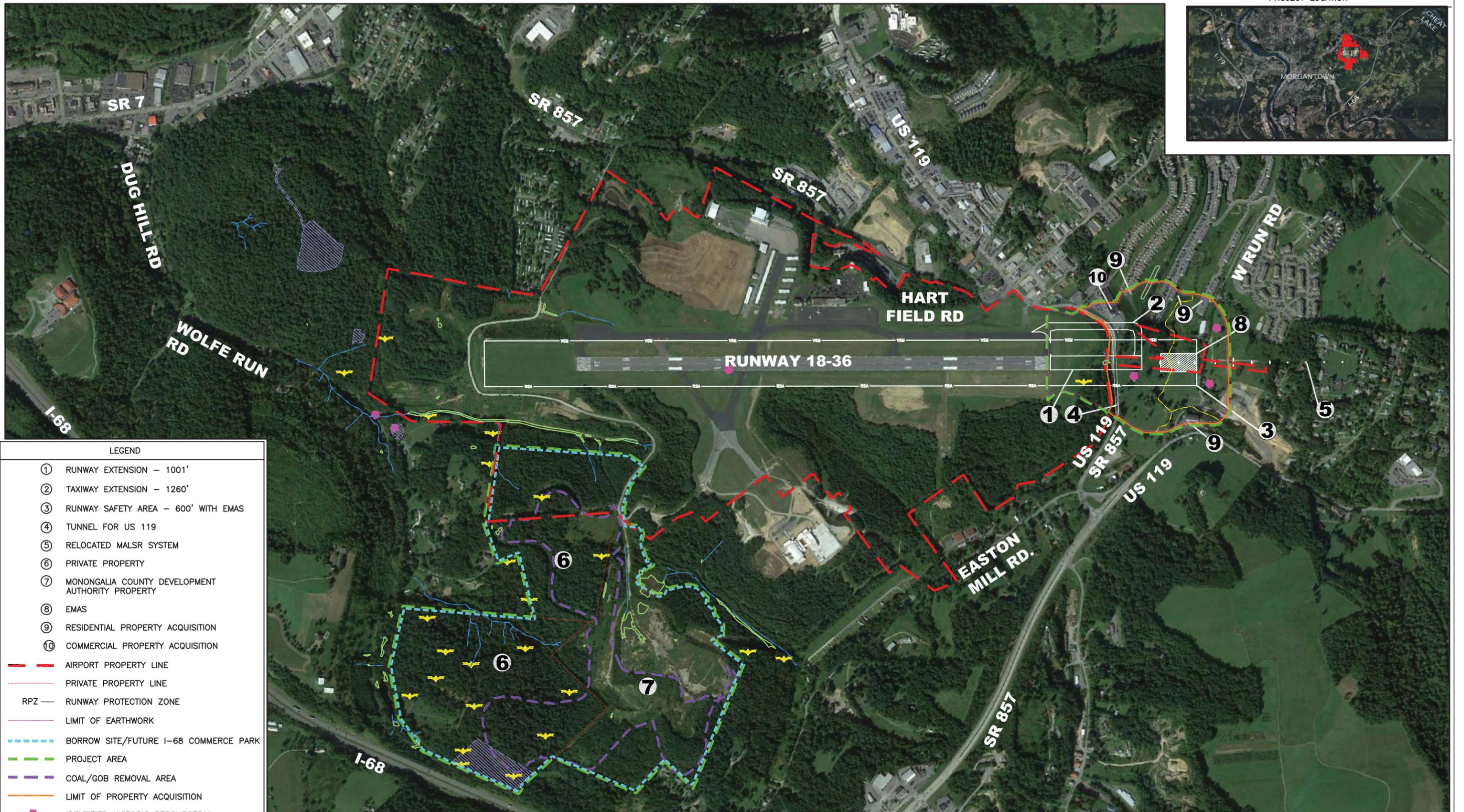
Morgantown Municipal Airport
Environmental Assessment

Exhibit 2-6
Alternative 4



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INTERNATIONAL





LEGEND	
①	RUNWAY EXTENSION - 1001'
②	TAXIWAY EXTENSION - 1260'
③	RUNWAY SAFETY AREA - 600' WITH EMAS
④	TUNNEL FOR US 119
⑤	RELOCATED MALSRS SYSTEM
⑥	PRIVATE PROPERTY
⑦	MONONGALIA COUNTY DEVELOPMENT AUTHORITY PROPERTY
⑧	EMAS
⑨	RESIDENTIAL PROPERTY ACQUISITION
⑩	COMMERCIAL PROPERTY ACQUISITION
	AIRPORT PROPERTY LINE
	PRIVATE PROPERTY LINE
	RPZ - RUNWAY PROTECTION ZONE
	LIMIT OF EARTHWORK
	BORROW SITE/FUTURE I-68 COMMERCE PARK
	PROJECT AREA
	COAL/GOB REMOVAL AREA
	LIMIT OF PROPERTY ACQUISITION
	IDENTIFIED HISTORIC RESOURCES**
	ARCHAEOLOGICAL RESOURCES**
	SURVEYED STREAMS
	SURVEYED WETLANDS
	WV SAMB STREAMS
	WV SAMB WETLANDS
	SURVEYED OR ASSUMED BAT HABITAT*

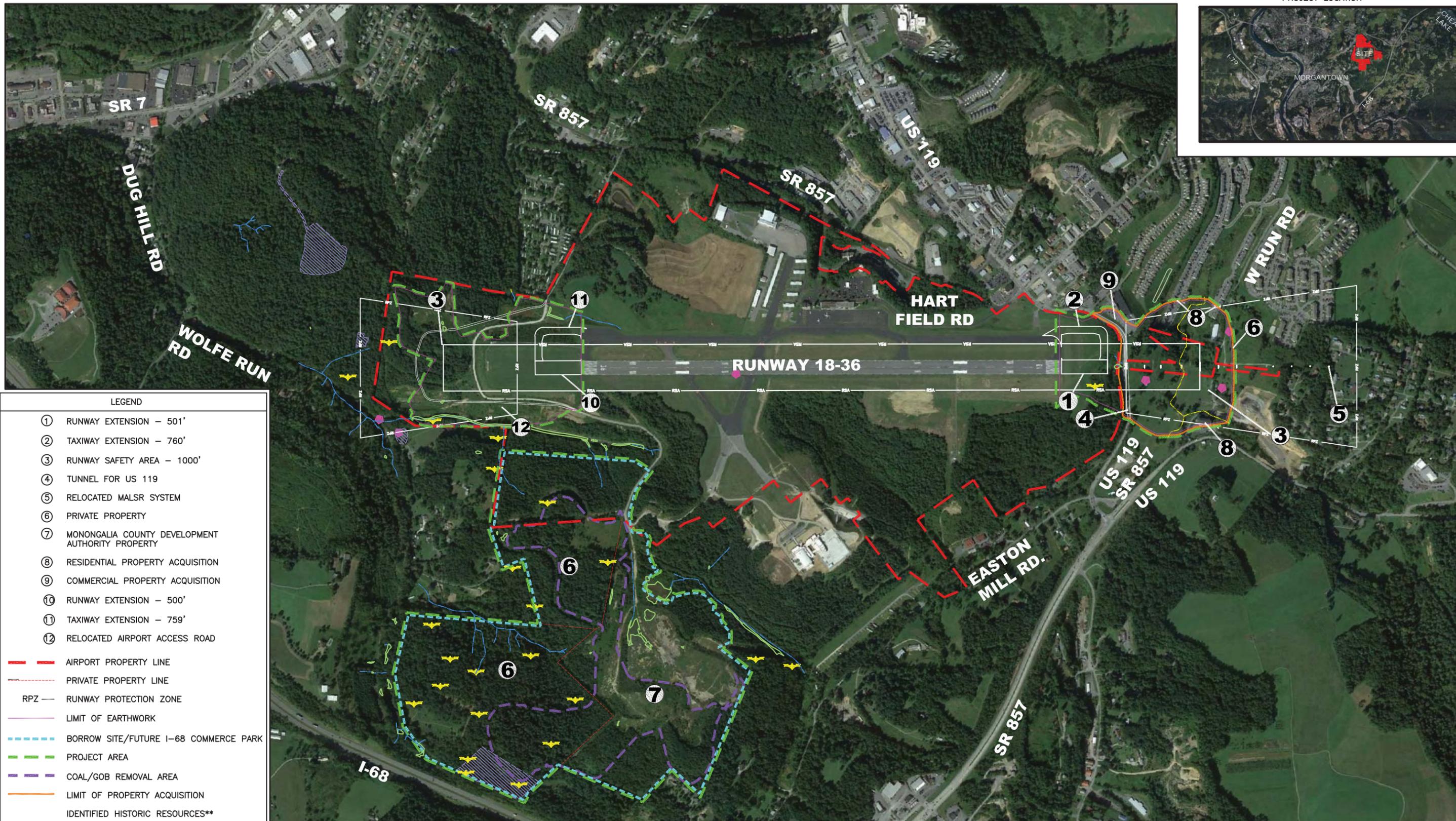
* Bat surveys were not conducted for the entire northern study area of this alternate; therefore, detailed information regarding impacts are unavailable.

** Surveyed Historic and Archaeological Resources present within the project area were determined not eligible for the National Register of Historic Places (NRHP); the West Virginia Division of Culture and History (WVDCH) concurred with these determinations and therefore no impacts to historic or archaeological resources would be affected.



Morgantown Municipal Airport
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Exhibit 2-7
Alternative 5



LEGEND

- ① RUNWAY EXTENSION – 501'
- ② TAXIWAY EXTENSION – 760'
- ③ RUNWAY SAFETY AREA – 1000'
- ④ TUNNEL FOR US 119
- ⑤ RELOCATED MALSRS SYSTEM
- ⑥ PRIVATE PROPERTY
- ⑦ MONONGALIA COUNTY DEVELOPMENT AUTHORITY PROPERTY
- ⑧ RESIDENTIAL PROPERTY ACQUISITION
- ⑨ COMMERCIAL PROPERTY ACQUISITION
- ⑩ RUNWAY EXTENSION – 500'
- ⑪ TAXIWAY EXTENSION – 759'
- ⑫ RELOCATED AIRPORT ACCESS ROAD

- AIRPORT PROPERTY LINE
- PRIVATE PROPERTY LINE
- RPZ — RUNWAY PROTECTION ZONE
- LIMIT OF EARTHWORK
- BORROW SITE/FUTURE I-68 COMMERCE PARK
- PROJECT AREA
- COAL/GOB REMOVAL AREA
- LIMIT OF PROPERTY ACQUISITION
- IDENTIFIED HISTORIC RESOURCES**
- ARCHAEOLOGICAL RESOURCES**
- SURVEYED STREAMS
- SURVEYED WETLANDS
- WV SAMB STREAMS
- WV SAMB WETLANDS
- SURVEYED OR ASSUMED BAT HABITAT*

* Bat surveys were not conducted for the entire northern study area of this alternate; therefore, detailed information regarding impacts are unavailable.

** Surveyed Historic and Archaeological Resources present within the project area were determined not eligible for the National Register of Historic Places (NRHP); the West Virginia Division of Culture and History (WVDCH) concurred with these determinations and therefore no impacts to historic or archaeological resources would be affected.



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Exhibit 2-8
Alternative 6

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0 500 1000
SCALE IN FEET

Table 2.2 • Comparison of Alternatives

Project Features	Alternative 1*	Alternative 2*	Alternative 3	Alternative 4	Alternative 5	Alternative 6
	1,001' Runway 36 Extension with 1000' Runway 36 RSA/ 400' Runway 18 RSA	1,001' Runway 36 Extension with 600' Graded RSA using EMAS/ 400' Runway 18 RSA	No Action	1,001' Runway 18 Extension with 1000' Runway 18 and 36 RSA	1,001' Runway 18 Extension with 600' Graded Runway 18 RSA using EMAS/1000- Runway 36 RSA	500' Runway 18 Extension with 500' Runway 36 Extension with 1000' Runway 18 and 36 RSA
Runway Length	6,200 feet	6,200 feet	5,199 feet	6,200 feet	6,200 feet	6,200 feet
Runway Width	150 feet	150 feet	150 feet	150 feet	150 feet	150 feet
Parallel Taxiway Length	6,200 feet	6,200 feet	5,199 feet	6,200 feet	6,200 feet	6,200 feet
Length of Graded RSA (18/36)	400/1,000 feet	400/600 feet	200/1,000 feet	1,000/1,000 feet	600/1,000 feet	1,000/1,000 feet
EMAS (18/36)	No/No	No/Yes	No/No	No/No	Yes/No	No/No
Relocation of NAVAIDs	Yes	Yes	No	Yes	Yes	Yes
Installation of Runway & Taxiway Edge Lights	Yes	Yes	No	Yes	Yes	Yes
Relocation of Localizer	Yes	Yes	No	No	No	Yes
Replacement of MALSR system	Partial Adjustment (2 Stations)	Partial Adjustment (2 Stations)	No	Yes	Yes	Yes
Airport Access Road Relocation	4,700 linear feet	3,750 linear feet	No	No	No	3,750 linear feet
Obstruction Removal (tree topping)	1.6 acres	1.6 acres	None	0	0	0
Property Acquisition	7 Residences 9 acres- Residential 0 acres- Commercial 15 acres- Undeveloped	1 Residence 3 acres- Residential 0 acres- Commercial 3 acres- Undeveloped	None	32 Residential Buildings 1 Commercial Building 12 acres- Residential 4 acres- Commercial 26 acres- Undeveloped	31 Residential Buildings 1 Commercial Building 9 acres- Residential 4 acres- Commercial 22 acres- Undeveloped	19 Residential Buildings 0 Commercial Building 7 acres- Residential 3 acres- Commercial 19 acres- Undeveloped
Wolfe Run Road Relocation	1,160 linear feet	No	No	No	No	No
Construction of Route 119 Tunnel	No	No	No	1,300 linear feet	1,300 linear feet	1,300 linear feet
Demolition of West Run Road ¹	No	No	No	Yes	Yes	Yes
Borrow Material	4.4 million cubic yards	2.4 million cubic yards	None	8.9 million cubic yards	7.6 million cubic yards	7.9 million cubic yards
Embankment Height (18/36)	34/235 feet	34/134 feet	None	230/0 feet	230/0 feet	230/120 feet
Stream	4,625 linear feet ¹	2,543 linear feet	None	3,499 linear feet	3,499 linear feet	4,613 linear feet
Wetlands	1.6 acres	1.6 acres	None	1.1 acres	1.1 acres	1.1 acres
Rare, Threatened, and Endangered Species	124 Surveyed Habitats for Indiana Bat and Northern Long-Eared Bat	124 Surveyed Habitats for Indiana Bat and Northern Long-Eared Bat	None	Not known ³	Not Known ³	Not Known ³
Historic Resources ²	0	0	None	0	0	0
Archaeological Resources ²	None	None	None	Not known ³	Not Known ³	Not Known ³
Clearing (Tree Clearing and Grubbing)	178 acres	157 acres	None	150 acres	150 acres	162 acres
Estimated Costs (represents only construction costs) ⁴	\$30.1 million	\$30.8 million	None	\$82.7 million	\$87.5 million	\$77.5 million

* Both Alternatives 1 and 2 include impacts resulting from the Proposed I-68 Commerce Park as this is considered a Connected Action to the Runway Extension Project.

1 As detailed design continues, the relocation of Wolfe Run Road may not be required as part of the Proposed Action thereby reducing costs as well as socio-economic and stream impacts.

2.0 Surveyed Historic and Archaeological Resources present within the project area were determined not eligible for the National Register of Historic Places (NRHP); the West Virginia Division of Culture and History (WVDCH) concurred with these determinations (See **Appendix B**); therefore, no historic or archaeological resources would be affected by the Proposed Action or from the proposed I-68 Commerce Park.

3.0 Archaeological and bat surveys not conducted north of Runway 18; therefore, detailed information regarding impacts are unavailable.

4.0 Other costs associated with the project include coal removal, environmental mitigation, professional/design services, and maintenance costs (See Section 2.3.2).

2.3 Alternatives Considered but Not Selected as the Proposed Action

2.3.1 Alternatives 4-6: Runway 18 Extension Alternatives

Results of the screening determined that alternatives proposed at the Runway 18 end (Alternatives 4 and 5) resulted in higher magnitude of impacts than those alternatives proposed to Runway 36 end (southern). Although they result in less impacts to wetlands and tree clearing than those alternatives proposed to Runway 36, these alternatives would result in substantially more community/property impacts due to the existing development on the northern end of the runway. In addition, Alternatives 4 and 5 include additional technical/engineering constraints such as the required construction of a Route 119 tunnel and demolition of local West Run Road. These alternatives also include substantially more economic constraints (cost) than Alternatives 1 and 2. Similarly, Alternative 6 includes impacts at both the northern and southern ends of the runway and would result in more impacts and engineering constraints than Alternatives 1 and 2. Based on the evaluation of the technical and environmental criteria listed above, Alternatives 4-6 were eliminated from further study.

2.3.2 Alternative 2: Runway 36 Extension Alternative using EMAS

Alternative screening of both Alternatives 1 and 2 resulted in Alternative 2 eliminated from further study. An explanation of the factors leading to this finding is described below.

Alternatives 1 and 2 both propose the runway extension to the southern end (Runway 36). Therefore, comparative analyses of Alternatives 1 and 2 were necessary to assess which alternative proposing a Runway 36 extension is the most practicable while considering the same criteria (technical and environmental) as well as economic considerations. Evaluation of Alternatives 1 and 2 were completed in accordance with FAA Order 5200.8 and 5200.9, *Financial Feasibility and Equivalency of RSA Improvements and Engineering Material Arresting Systems* as well as FAA AC 150-5220-22B, *Engineered Materials Arresting Systems for Aircraft Overruns*.

Table 2-3 lists these criteria and qualitatively assessed each in terms of overall alternative favorability.

Table 2.3 • Detailed Criteria Assessment – Alternatives 1 and 2

Criteria	Alternative 1		Alternative 2	
	1,001' Runway 36 Extension with 1000' Runway 36 RSA / 400' Runway 18 RSA		1,001' Runway 36 Extension with 600' Graded RSA using EMAS / 400' Runway 18 RSA	
Technical	■	Same Runway Length/Width, Parallel Taxiway Length, Relocation of NAVAIDS, Localizer Replacement and MALSR Adjustment for both Alternative 1 and 2	■	Runway 36 600' Graded RSA w/ EMAS Runway 18 400' Graded RSA
	■	Runway 36 1000' Graded RSA Runway 18 400' Graded RSA	■	Runway 36 600' Graded RSA w/ EMAS Runway 18 400' Graded RSA
	■	4,700 LF Access Road Relocation	■	3,750 LF Access Road Relocation
	■	1,160 LF Wolfe Run Road Relocation*	■	Wolfe Run Road Not Impacted
	■	4.4 Million CY Borrow Material	■	2.4 Million CY Borrow Material

Criteria	Alternative 1		Alternative 2	
	1,001' Runway 36 Extension with 1000' Runway 36 RSA / 400' Runway 18 RSA		1,001' Runway 36 Extension with 600' Graded RSA using EMAS / 400' Runway 18 RSA	
	■	<i>Maintenance Requirements:</i> Typical maintenance requirements (e.g., cleared, graded, object-free, capable of supporting ARFF and SRE equipment)	■	<i>Maintenance Requirements:</i> Design life of 20 years, with replacement after 10 years; straining on airport maintenance staff/crew; yearly maintenance/inspection costs; additional snow removal equipment needed
	■	<i>Operational Considerations:</i> Minimal impact on operations during any routine maintenance activities	■	<i>Operational Considerations:</i> Repair or Replacement of EMAS either due to use or annual maintenance results in longer operational impacts during construction (MGW is a single runway airport).
	■	<i>Safety:</i> Arrests current aircraft mix operating at MGW	■	<i>Safety:</i> EMAS would not satisfy the requirements for all aircraft currently operating at MGW. Because the critical aircraft at this time has an MTOW that is less than 25,000 pounds, "EMAS models are not as accurate" for those aircraft as stated in FAA AC 150/5220-22B. Although heavier jets may operate at MGW on a more regular basis in the future, EMAS is not appropriate for the current aircraft mix.
Environmental	■	Same Obstruction Removal Requirements, RTEs, and Wetland Impacts; Neither Alternative Impact Historic or Cultural Resources		
	■	7 Residential Property Acquisitions (+6 Residences Than Alternative 2)	■	1 Residential Property Acquisition
	■	4,625 LF Stream Impacts* (+2,082 LF More Than Alternative 2) -Not considered a significant loss	■	2,543 LF Stream Impacts
	■	178 Acres of Tree Clearing and Grubbing (+21 Acres More Than Alternative 2)	■	157 Acres of Tree Clearing and Grubbing
Economic	■	\$30.1 Million Estimated Construction Cost + \$13.2 Million - Coal Removal + \$ 2 Million - Environmental Mitigation + \$ 6 Million – Professional/Design Services = \$51.3 Million Total Project Costs + \$ 8.6 Million – Life-Cycle Maintenance Cost	■	\$30.8 Million Estimated Construction Cost + \$13.2 Million - Coal Removal + \$ 1 Million - Environmental Mitigation + \$ 6 Million – Professional/Design Services = \$51 Million Total Project Costs + \$ 20.1 Million – Life-Cycle Maintenance Cost

■ Identical for both Alternatives resulting in no favorability of either alternative
 ■ High Severity of Influence on Alternative Favorability
 ■ Medium Severity of Influence on Alternative Favorability
 ■ Positive Influence on Alternative Favorability

* As detailed design continues, the relocation of Wolfe Run Road may not be required as part of the Proposed Action thereby reducing costs as well as socio-economic and stream impacts.

2.3.2.1 Technical Considerations

Alternative 1 would require additional linear feet of Airport Access Road relocation as well as 1,160 linear feet of Wolfe Run Road relocation¹⁵. In addition, Alternative 1 would require

¹⁵ See Note on Table 2.3.

approximately two million cubic yards of borrow material above what is required for Alternative 2. However, these considerations (road relocations and additional borrow material) would not result in substantial environmental impacts above significance thresholds¹⁶. Therefore, these elements are only considered to have a moderate severity on overall alternative favorability between Alternatives 1 and 2. Other technical considerations included maintenance, operations, and safety.

Maintenance – Preliminary maintenance estimates calculated for both Alternative 1 and 2 indicate that associated costs of 20 years of maintenance for Alternative 1 would be approximately \$8.6 Million Dollars; Alternative 2 would cost approximately \$20.1 Million Dollars¹⁷. Therefore, Alternative 2 would result in substantially higher maintenance costs over the design life of the EMAS bed. An additional consideration for Alternative 2 with EMAS, compared to Alternative 1, is the need to periodically¹⁸ close Runway 18-36 for maintenance of the EMAS. MGW would be required to either, A) purchase proper maintenance equipment and train maintenance staff in the use of the equipment and how to properly maintain the system, or B) require that the manufacturer come to the airport on a regular basis to inspect and perform necessary maintenance. Either option would be considered an additional cost to MGW which operates on a limited budget.

In addition to typical maintenance that would need to be performed for an EMAS bed, snow/ice removal is also a consideration. FAA AC 150-5220-22B states that “The EMAS design must consider ice accumulation, and in areas that are subject to snow or ice removal requirements, must be designed to be mechanically or manually cleared of ice and snow. Requirements/limitations must be addressed in the approved inspection and maintenance program”. This will require that MGW to purchase the proper snow removal equipment to remove snow from the system. This maintenance requires contractors and equipment to be in the RSA thereby requiring closure of the runway leading to additional operational impacts at a single runway airport.

Operations - FAA reports that as of October 2014, there are two manufacturers of EMAS products that meet the FAA requirements of AC 150-5220-22B, “*Engineered Materials Arresting Systems for Aircraft Overruns*” and are technically accepted - EMASMAX® and Runway Safe EMAS (FAA July 2018). The EMAS installation process of either manufacturer requires contractors and equipment located in the RSA during construction. This will require closure of the runway or at least a temporary relocation of the threshold thereby shortening the operational length of the runway. Any closure of the runway or shortening of the single runway at MGW could have substantial operational impact.

¹⁶ Significance thresholds - impact thresholds identified in Exhibit 4-1 of FAA Order 1050.1F that are used by the FAA to determine the significance of the impacts of the proposed action and alternative(s) where such thresholds have been established.

¹⁷ Life-Cycle Maintenance Costs considered the following criteria – EMAS replacement, pavement rehabilitation, and lighting maintenance/upgrades. Maintenance estimates were calculated at the 10, 15, and 20 year time periods.

¹⁸ Per FAA AC 150-5220-22B, the frequency and type of maintenance required for the EMAS bed would be detailed in the inspection and maintenance program prepared by the EMAS manufacturer.

Safety - As described in **Section 1.4.3**, MGW is an important general aviation facility predominately serving the needs of aircraft with maximum takeoff weights (MTOW) greater than 12,500 pounds but less than 60,000 pounds. According to FAA Advisory Circular (AC) 150/5311-13A, a standard EMAS installation provides a level of safety that is equivalent to an RSA built to the full dimensional standards. “An EMAS is designed to stop an overrunning aircraft by exerting predictable deceleration forces on its landing gear as the EMAS material deforms. EMAS performance is dependent on the aircraft weight, landing gear configuration, tire pressure, and entry speed” and “will stop the design aircraft exiting the runway at 70 knots within an area that also provides the required protection for undershoots in the opposite direction.” Alternative 2 depicts the installation of a standard EMAS beyond the south end of Runway 18-36. Although such an alternative may be considered a viable long-term option for MGW, there are several reasons why the installation of an EMAS would not satisfy the requirements of aircraft that regularly operate at the airport today (i.e., those aircraft that conduct at least 500 annual operations). Based on the information presented in the FAA-approved Runway Justification Study (**Appendix K**), the most demanding aircraft that regularly operates at MGW is similar to the Cessna Citation 650 corporate jet, which is designated as a Runway Design Code (RDC) C-II aircraft. This medium-sized corporate jet has a MTOW of 22,450 pounds and can carry up to eight passengers.

According to FAA Order 5200.9, EMAS may be considered when certain criteria are met including that “the runway serves [a critical] aircraft with a MTOW of 25,000 pounds or more.” Because the critical aircraft at this time has an MTOW that is less than 25,000 pounds, “EMAS models are not as accurate” for those aircraft as stated in FAA AC 150/5220-22B. Although heavier jets may operate at MGW on a more regular basis in the future, EMAS is not appropriate for the current aircraft mix.

Therefore, based on technical considerations described above, Alternative 1 is the more favorable alternative.

2.3.2.2 Environmental Considerations

In terms of environmental considerations, Alternative 2 would result in one residential displacement and require less property acquisition than Alternative 1. Alternative 1 would also result in additional stream impacts (an additional 2,082 Linear Feet) and tree clearing (additional 21 acres). Therefore, in terms of environmental and socioeconomic considerations, Alternative 2 is the least impactful alternative. However, all impacts associated with Alternative 1 would be below significance thresholds described in FAA 1050.1F and also include applicable mitigation measures. In addition, additional measures to minimize impacts (e.g., reduction in overall Limit of Disturbance (LOD) required) will be evaluated during the final design phase of the project (including eliminating the Wolfe Run Road Relocation). Although these elements are only considered to have a moderate severity on overall alternative favorability, Alternative 2 is the more favorable alternative in terms of environmental considerations.

2.3.2.3 Economic Considerations

Overall, Alternative 2 would also be more costly (construction) than Alternative 1 by approximately 700 thousand dollars¹⁹ partly due to the costs associated with the initial EMAS installation. The estimated costs of an EMAS bed are based on two primary factors: the cost to install the system and the cost to maintain the system over a 20-year period, otherwise known as a “Life Cycle” cost. FAA Order 5200.9 provides guidance on calculating the EMAS life-cycle cost. This cost includes and accounts for the required inspections, maintenance, and replacement of the EMAS after 10 years and is estimated around 9.3 million dollars. Other required maintenance includes electrical/lighting and pavement rehabilitation/replacement. Therefore, maintenance costs over the life-cycle would be substantially higher with Alternative 2 (by approximately \$11.5 million) since maintenance costs associated with Alternative 1 only include pavement and lighting rehabilitation/replacement. In terms of all economic considerations, Alternative 1 is the more favorable alternative.

According to AC 150-5220-22B “There are many runways, particularly those constructed prior to the adoption of the safety area standards, where natural obstacles, local development, and/or environmental constraints, make the construction of a standard safety area impracticable”. After evaluating the criteria listed above, construction of a standard safety area as proposed in Alternative 1 is practicable at MGW. Therefore, based on the evaluation of all the technical, environmental, and economic considerations compared to that of Alternative 1, Alternative 2 was eliminated from further study.

2.4 Recommendation for Proposed Action

Of the alternatives considered, Alternative 1 was selected as the Preferred Alternative. Alternative 1 meets the Proposed Action’s Purpose and Need, is more desirable considering both technical and economic considerations, and the environmental impacts would be below significance thresholds based on FAA Order 1050.1F. Both Alternative 1 and Alternative 3 (the No Action Alternative) were identified for further consideration and are evaluated in detail in **Section 4.0**. In addition, the development of the Proposed I-68 Commerce Park site is considered a Connected Action and therefore evaluated along with Alternative 1 (Proposed Action).

¹⁹ Except for the cost associated with the borrow material excavation, the Proposed I-68 Commerce Park site (i.e., Connected Action), is not included in the cost estimates as it will be the responsibility of MCDA to pay for any associated building/development of the site.

3.0 AFFECTED ENVIRONMENT

This chapter provides a detailed description of the existing environment within the 335-acre project area to establish the baseline condition. Although all categories in FAA Orders 1050.1F and 5050.4B were considered for applicability in defining the affected environment, several environmental resource categories are either not present or would not be measurably impacted by the proposed future runway extension, as described in **Table 3.1**. Only those resources that would potentially be affected by the alternatives carried forward from **Chapter 2.0** are evaluated in this chapter. The potential environmental impacts of the alternatives are detailed in **Chapter 4.0**, Environmental Consequences and Mitigation.

Table 3.1 • Resources Not Present within the Project Site or Not Measurably Impacted by the Proposed Action

Resource	Status
Coastal Resources	West Virginia has no coastal barriers or coastal management zones; therefore, no discussion of these resources is needed.
Section 4(f) and Section 6(f) Resources	No publicly-owned parks, recreation areas, or wildlife refuges are identified adjacent to the project site. In addition, within the Area of Potential Effect (APE), there are no historic properties listed or eligible for listing in the National Register of Historic Places (NRHP). No Section 6(f) resources (recreational areas that were purchased in part through grants from the Land and Water Conservation Fund Act of 1965) are known to exist in the vicinity of the project area.
Farmlands	Based on the 2010 U.S. Census, the City of Morgantown is considered an “urban area”. This includes the airport and land within the project area. Therefore, it is considered an “urban area” per U.S. Census and is exempt from the Farmland Protection Policy Act (49 CFR § 658.2).
Natural Resources and Energy Supply	There are available resources and energy supply to accommodate the future construction and operation of the airport with the proposed runway extension. Therefore, impacts are unlikely.
Water Resources	<i>Floodplains:</i> As depicted on the Federal Emergency Management Agency (FEMA) map included in Appendix D , no floodplains are located within the project site.
	<i>Wild and Scenic Rivers:</i> There are no Federally-designated Wild or Scenic Rivers, Congressionally-Authorized Study Rivers, or Nationwide Rivers Inventory rivers in the Project Area. In addition, there are no West Virginia Waters of Special Concern within the Project Area, including those waters protected under the Natural Stream Preservation Act and those waters designated as Critical Resource Waters.

3.1 Air Quality

This section contains summary information pertaining to existing air quality conditions in West Virginia, including recent air quality monitoring data as available, relevant air quality regulations, and the governmental agencies involved in the management of this resource.

3.1.1 Regulatory Information

This section briefly summarizes information that is considered important to understanding the regulatory framework associated with air quality management on a national level and in Monongalia County.

3.1.1.1 Air Quality Standards

To safeguard human health and environmental welfare against the harmful effects of outdoor air pollution, the U.S. Environmental Protection Agency (EPA) has issued National Ambient Air Quality Standards (NAAQS) under the Clean Air Act (CAA) that create threshold levels for ambient (i.e. outdoor) air concentrations of six "criteria" air pollutants. These air pollutants comprise carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO₂), ozone (O₂), sulfur dioxide (SO₂), and coarse and fine particulate matter (PM₁₀ and PM_{2.5}). The related NAAQS are listed in **Table 3.2.**

3.1.1.2 Air Quality Management Agencies

Under the authority of the CAA, the EPA promulgates national clean air regulations and sets NAAQS. In West Virginia, the responsibility of enforcing these regulations and ensuring that these standards are met falls upon the WVDEP. Pursuant to this responsibility, the WVDEP prepares state-wide strategies and programs (called the State Implementation Plan - SIP) by which air quality goals and standards can be met. WVDEP is assisted by Metropolitan Planning Organizations (MPOs) and counties where appropriate.

The West Virginia Department of Transportation (WVDOT) is involved in air quality management of surface transportation facilities by means of coordination with Monongalia County and the Morgantown Monongalia Metropolitan Planning Organization, and Federal Highway Administration (FHWA) in the development of Transportation Improvement Plans (TIPs) and adherence to the Transportation Conformity rules.

Finally, FAA is the primary agency involved in, and responsible for, ensuring that air quality impacts associated with proposed airport projects adhere to the reporting and disclosure requirements of NEPA as well as the General Conformity rule of the CAA.

Table 3.2 • National Ambient Air Quality Standards (NAAQS)²⁰

Pollutant [final rule cite]	Primary/ Secondary	Averaging Time	Level	Form	
Carbon Monoxide [76 FR 54294, Aug 31, 2011]	primary	8-hour	9 ppm	Not to be exceeded more than once per year	
		1-hour	35 ppm		
Lead [73 FR 66964, Nov 12, 2008]	primary and secondary	Rolling 3 month average	0.15 µg/m ³ ⁽¹⁾	Not to be exceeded	
Nitrogen Dioxide [75 FR 6474, Feb 9, 2010] [61 FR 52852, Oct 8, 1996]	primary	1-hour	100 ppb	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years	
	primary and secondary	Annual	53 ppb ⁽²⁾	Annual Mean	
Ozone [73 FR 16436, Mar 27, 2008]	primary and secondary	8-hour	0.075 ppm ⁽³⁾	Annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years	
Particle Pollution Dec 14, 2012	PM _{2.5}	primary	Annual	12 µg/m ³	annual mean, averaged over 3 years
		secondary	Annual	15 µg/m ³	annual mean, averaged over 3 years
		primary and secondary	24-hour	35 µg/m ³	98th percentile, averaged over 3 years
	PM ₁₀	primary and secondary	24-hour	150 µg/m ³	Not to be exceeded more than once per year on average over 3 years
Sulfur Dioxide [75 FR 35520, Jun 22, 2010] [38 FR 25678, Sept 14, 1973]	primary	1-hour	75 ppb ⁽⁴⁾	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years	
	secondary	3-hour	0.5 ppm	Not to be exceeded more than once per year	

(1) Final rule signed October 15, 2008. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

(2) The official level of the annual NO₂ standard is 0.053 ppm, equal to 53 ppb, which is shown here for the purpose of clearer comparison to the 1-hour standard.

(3) Final rule signed March 12, 2008. The 1997 ozone standard (0.08 ppm, annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years) and related implementation rules remain in place. In 1997, EPA revoked the 1-hour ozone standard (0.12 ppm, not to be exceeded more than once per year) in all areas, although some areas have continued obligations under that standard (“anti-backsliding”). The 1-hour ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is less than or equal to 1.

(4) Final rule signed June 2, 2010. The 1971 annual and 24-hour SO₂ standards were revoked in that same rulemaking. However, these standards remain in effect until one year after an area is designated for the 2010 standard, except in areas designated nonattainment for the 1971 standards, where the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standard are approved.

Table 3.3 summarizes the federal, state and local agencies' roles and responsibilities with regards to air quality management in the Morgantown area and as it potentially applies to assessments of air quality impacts at MGW.

²⁰ USEPA Website: <http://www3.epa.gov/ttn/naaqs/criteria.html>

Table 3.3 • Agency Roles and Responsibilities

Agency	Roles and Responsibilities
U.S. Environmental Protection Agency (EPA)	Sets national clean air policies under the CAA, establishes emissions standards, promulgates the NAAQS, reviews and approves air quality plans.
Federal Aviation Administration (FAA)	Responsible for implementing NEPA and ensuring CAA compliance as it pertains to aviation actions. Coordinates with EPA on the environmental regulation of aviation equipment and fuels.
Federal Highway Administration (FHWA)	Responsible for the approval of roadway projects under FHWA existing regulations and must examine the environmental impacts of their actions in accordance with NEPA and the Transportation Conformity Rule of the CAA. Assists state and local air quality governance in formulating local transportation plans.
Morgantown/Monongalia County Transportation Planning Organization	Local governmental agencies with direct responsibility to prepare air Quality related transportation plans. Also assist in local planning with regard to development of local control strategies for on-road and non-road mobile sources.
West Virginia Department of Environmental Protection	Implement and enforce air quality programs state-wide including those pertaining to ambient air monitoring, stationary source permitting and smoke management. Also involved in the development of air quality plans in EPA-designated nonattainment or maintenance areas.

3.1.1.3 Attainment / Non-attainment Designations

MGW is located in an area that meets all the NAAQS and the emissions generated in Monongalia County have not been found to significantly contribute to the exceedance of any of NAAQS in adjoining regions. As such the area in and surrounding Morgantown is classified as attainment for all pollutants and air quality conformity requirements as defined under the CAA do not apply.

3.1.1.4 State Implementation Plans (SIP)

The CAA requires individual states to develop, update and maintain a SIP that demonstrates compliance with the NAAQS. Common features of a SIP include attainment timeframes and milestones, area-wide emissions inventories and budgets, as well as emission control and mitigation strategies.

WVDEP has a number of air quality attainment and maintenance plans in place; however, the region containing the MGW was not found to be a significant contributor to any current or former exceedance of any of the NAAQS and thereby does not fall within the boundaries of any non-attainment or maintenance areas. Inventories in the state largely focus on point sources (SO₂ and PM_{10/2.5} Maintenance Areas) and mobile sources are generally not a significant contributor to the pollutant inventories. For Ozone maintenance areas, the airports are not found to be a significant contributor.

3.1.2 Source of Airport Air Emissions

Airport-related sources of air emissions are typically classified into the general source categories listed in **Table 3.4**, which provides a summary listing of these sources at airports, the pollutants emitted, and their typical characteristics.

Table 3.4 • Typical Airport-Related sources of Air Pollution Emissions²¹

Source		Pollutants	Characteristics
Aircraft ¹	Main engine(s)	CO, VOC, NO _x , PM ₁₀ and PM _{2.5} , SO ₂ , Pb, GHGs (i.e., CO ₂ , CH ₄ ¹ , N ₂ O), and HAPs ²	Emitted as the exhaust products of fuel combustion in aircraft engines. The quantities and types can vary based on engine power setting and duration of operation. Emissions are generally assessed based on a typical Landing and Take Off (LTO) cycle (i.e., taxi and delay, take-off, climb-out, approach, landing, and taxi to gate). Lead emissions are an exhaust product from aircraft fueled with leaded avgas.
APUs	Turbine engine		Emitted as the exhaust products of fuel combustion of the turbine engine. The quantities and types can vary based on engine power setting and duration of operation. Emissions are generally assessed based on a typical LTO cycle (i.e., taxi and delay, take-off, climb-out, approach, landing, and taxi to gate).
GSE	Combustion engines (e.g., aircraft tugs, air start units, loaders, tractors, fuel or hydrant trucks)		Emitted as the exhaust products of fuel combustion from the operation of service trucks and other equipment servicing the aircraft and the airport. Emissions differ by engine type, fuel type and activity level.
Stationary/ Area	Combustion sources (e.g., boilers, heaters, generators, snow-melters, incinerators, fire training facilities)	CO, VOC, NO _x , PM ₁₀ and PM _{2.5} , SO ₂ , GHGs (i.e., CO ₂ , CH ₄ , N ₂ O), and HAPs ²	Results from the combustion of fossil fuels. The combustion sources tend to produce a variety of air pollutants that are released to the atmosphere with combustion gases. The level of emissions of these sources is dependent on type of fuel, usage, and duration of operation.
	Non-combustion sources (e.g., fuel storage tanks, painting operations, de-icing and anti-icing operations, salt/sand storage)	VOC, PM ₁₀ , PM _{2.5} , and HAPs ²	Emit evaporative emissions from vapor displacement and loss during fuel storage and transfer, and upon application of solvents and coatings. Particulate matter emissions can occur during loading and unloading of the piles and through wind erosion of the pile material.
Ground Access Vehicles	Passenger vehicles (e.g., private autos, taxis/limos, shuttles, vans, buses, rental cars), airport & tenant employee vehicles, airport fleet, & vehicles transporting cargo to/from airport as well as circulating around the airport.	CO, VOC, NO _x , PM ₁₀ and PM _{2.5} , SO ₂ , GHGs (i.e., CO ₂ , CH ₄ , N ₂ O)	Emitted as the exhaust products of fuel combustion from the operation of passenger, employee and other on-road vehicles approaching, departing, and moving within the airport and its parking facilities. Emissions vary depending on vehicle type (e.g., gasoline, diesel, etc.) and the amount of fuel consumed.

²¹ FAA Aviation Emissions and Air Quality Handbook Version 3, Update 1, January 2015.

Source		Pollutants	Characteristics
Construction	Combustion sources (e.g., heavy construction equipment, on-road vehicles and off-road vehicles)	CO, VOC, NO _x , PM ₁₀ and PM _{2.5} , SO ₂ , GHGs (i.e., CO ₂ , CH ₄ , N ₂ O)	Occur predominantly in the engine exhaust from the operation of construction equipment (e.g., backhoes, bulldozers, graders, etc.), on-road vehicles (e.g., cars, pick-up trucks, vans, etc.) and off-road vehicles (e.g., cement trucks, dump trucks, etc.). Emissions are based on construction activity schedule, number of vehicles/pieces of equipment, the types of equipment, type of fuel used, and vehicle/equipment utilization rates.
	Non-combustion sources associated with construction activities & operations (e.g., construction material staging, demolition, earthwork, & asphalt paving operations)	PM ₁₀ , PM _{2.5} and VOC	Evaporative emissions resulting from asphalt paving operations and fugitive dust emissions are from construction materials staging, demolition, clearing and earthworks activities. Asphalt paving operations and fugitive dust emissions are from construction materials staging, demolition, clearing and earthworks activities.
Electrical Usage ³	The onsite generation of electricity using coal, oil, or natural gas.	GHGs (i.e., CO ₂ , CH ₄ , N ₂ O)	Emissions associated with the onsite generation of electricity using coal, oil, or natural gas.
Refrigerants ³	Compounds used for refrigeration & air conditioning.	GHGs (i.e., HFCs, PFCs and SF ₆)	A range of chemicals comprised of substances possessing high global warming characteristics (e.g., Freon, chlorofluorocarbons, etc.).
Waste Management ³	Solid waste generated & the recycling/waste disposal practices employed by the airport.	GHGs (i.e., CO ₂ , CH ₄ , N ₂ O)	Emissions associated with the recycling/waste disposal practices employed by the airport.

¹ Contributions of CH₄ emissions from commercial aircraft are reported as zero. Years of scientific measurement campaigns conducted at the exhaust exit plane of commercial aircraft gas turbine engines have repeatedly indicated that CH₄ emissions are consumed over the full emission flight envelope [Reference: *Aircraft Emissions of Methane and Nitrous Oxide during the Alternative Aviation Fuel Experiment*, Santoni et al., Environ. Sci. Technol., July 2011, Volume 45, pp. 7075-7082]. As a result, EPA published that: "...methane is no longer considered to be an emission from aircraft gas turbine engines burning Jet A at higher power settings and is, in fact, consumed in net at these higher powers." [Reference: EPA, *Recommended Best Practice for Quantifying Speciated Organic Gas Emissions from Aircraft Equipped with Turbofan, Turbojet, and Turboprop Engines*, May 27, 2009 [EPA-420-R-09-901], In accordance with the following statements in the 2006 IPCC Guidelines, FAA does not calculate CH₄ emissions for either domestic or international bunker commercial aircraft jet fuel emissions inventories. "Methane (CH₄) may be emitted by gas turbines during idle and by older technology engines, but recent data suggest that little or no CH₄ is emitted by modern engines." "Current scientific understanding does not allow other gases (e.g., N₂O and CH₄) to be included in calculation of cruise emissions." (IPCC 1999).

² Not all HAPs are emitted by these sources. To identify the type of HAP emitted by this source category refer to the FAA/EPA documents: *Recommended Best Practice for Quantifying Speciated Organic Gas Emissions from Aircraft Equipped with Turbofan, Turbojet, and Turboprop Engines (Version 1.0)*, May 2009 [EPA-420-R-09-901], and *Guidance for Quantifying Speciated Organic Gas Emissions from Airport Sources*, Version 1, September 2, 2009.

³ GHG emissions from these sources are strictly related to the "activities" of these sources, and thus not considered under the stationary/area source category.

3.1.3 Ambient Air Quality Monitoring

WVDEP maintains an air quality monitoring network composed of monitoring stations throughout West Virginia, each one monitoring pollutant concentrations and meteorological data. Monongalia County has a single monitoring station located adjacent the Morgantown airport, northeast of the intersection of Mileground Road and Airport Boulevard/Hartfield Road. **Table 3.5** summarizes the

recorded concentrations of PM_{2.5}, O₃, and SO₂ at this station. PM₁₀, NO_x, and CO are not measured at this site.²²

Table 3.5 • Monitor Readings Adjacent to Morgantown Airport

Pollutant		PM _{2.5}		Ozone (O ₃)	SO ₂	
Averaging Period		Annual	24-Hour	8-Hour	1-Hour	24-Hour
<i>Standard</i>		12 µg/m ³	35 µg/m ³	0.075 ppm	75 ppb	140 ppb
Year	2014	8.6 µg/m ³	17 µg/m ³	0.064 ppm	15 ppb	5 ppb
	2013	8.9 µg/m ³	19 µg/m ³	0.064 ppm	17 ppb	6 ppb
	2012	8.9 µg/m ³	18 µg/m ³	0.072 ppm	16 ppb	5 ppb
	2011	10.6 µg/m ³	29 µg/m ³	0.69 ppm	22 ppb	10 ppb

3.2 Biological Resources

3.2.1 Terrestrial Habitat

The project area has a wide range of habitat across the project area, depending on the type of previous land use. Some areas have been previously mined and previously cleared and contain smaller diameter trees. Other portions of the project area consist of mixed hardwood forest, and include tree species such as tulip poplar (*Liriodendron tulipifera*), beech, (*Fagus grandifolia*), black cherry (*Prunus serotina*), white oak (*Quercus alba*), sugar maple (*Acer saccharum*), shagbark hickory (*Carya ovata*), and red oak (*Quercus rubra*). Hardwood forests contain an understory that is comprised mainly of shrubs with only sparse herbaceous ground cover. Understory vegetation consists mainly of saplings of larger trees, and the following ground cover species: multiflora rose (*Rosa multiflora*), greenbrier (*Smilax tamnoides*), Christmas fern (*Polystichum acrostichoides*), and blackberry (*Rubus allegheniensis*). In addition, portions of the project area that are forested include many dead snags (i.e., dead trees).

Habitats within the project area that are predominately forested/undeveloped provide habitat for white-tailed deer (*Odocoileus virginianus*) and wild turkey (*Meleagris gallopavo silvestris*) resulting in populations of game animals. Populations of small game animals, including cottontail rabbits (*Sylvilagus floridanus*), eastern gray squirrel (*Sciurus carolinensis*), and fox squirrels (*Sciurus niger*) are also present. The project area is also home to a variety of non-game animals, reptiles and amphibians.

²² Sampling sites and air pollutants/parameters monitored to assess air quality levels based on population exposure, industry emissions, determine compliance with the NAAQS, background levels, and other special purposes. Therefore, data collected varies per each sampling site within the WVDEP air quality monitoring network.

3.2.2 Rare, Threatened, and Endangered Species

Coordination with the West Virginia Division of Natural Resources (WV DNR) and the United States Fish and Wildlife Service (USFWS) was conducted. No rare, threatened, or endangered species/sensitive habitats were identified by the WV DNR (**Appendix B**). USFWS identified the potential for two federally-listed species to occur in the project area: the endangered Indiana bat (*Myotis sodalis*) and the threatened northern long-eared bat (NLEB) (*M.septentrionalis*).

3.2.2.1 Indiana Bat and Northern Long-eared bat (NLEB)

The Indiana bat and NLEB may use the project area for foraging and roosting between April 1 and November 15. Indiana bat summer foraging habitats are generally defined as riparian, bottomland, or upland forest, and old fields or pastures with scattered trees. Roosting/maternity habitat consists of primarily live or dead hardwood tree species which have exfoliating bark that provides space between for bats to roost between the bark and the bole of the tree. Tree cavities, crevices, splits, or hollow portions of tree boles and limbs also provide roost sites. Similar to the Indiana bat, NLEB foraging habitat includes forested hillsides and ridges, and small ponds and streams. NLEB are typically associated with large tracts of mature, upland forests with more canopy cover than is preferred by Indiana bats. NLEB seem to be flexible in selecting roosts, choosing roost trees based on suitability to retain bark or provide cavities or crevices, and this species is known to use a wider variety of roost types than the Indiana bat. Males and non-reproductive females may also roost in cooler places, like caves and mines. In West Virginia, the USFWS considers all forest habitats containing trees greater than or equal to three inches in diameter at breast height (DBH) to be potentially suitable as summer roosting and foraging habitat for the Indiana and NLEB.

Indiana bats and NLEB use caves or mine portals for winter hibernation between November 15 and March 31. These species also use hibernacula and the areas around them for fall-swarmling and spring-staging activity.

3.2.2.2 Habitat Assessment

A combined habitat assessment and conservation plan for the proposed I-68 Commerce Park site and the Proposed Action has been completed and submitted to the USFWS. **Table 3.6** summarizes the results of the habitat assessments and the complete report can be found in **Appendix L**.

The habitat assessment included surveys for the following:

- Trees with exfoliating bark
- Caves and sinkholes
- Mature Timber Stands
- Wetlands and Streams

Table 3.6 • Summary of Bat Habitat Assessments

Location*	Date of Survey	Results
Proposed I-68 Commerce Park	November 2015	<p>26 potential bat roost trees were identified within the project area:</p> <ul style="list-style-type: none"> • 10 trees identified as primary roost trees for both Indiana bat and NLEB • 16 trees as potential primary NLEB and secondary Indiana bat trees <p>Two mine portals and multiple crevices were observed that are not suitable winter hibernacula</p>
Proposed I-68 Commerce Park – Laurita Parcel	August 2016	<p>80 potential bat roost trees were identified within the project area:</p> <ul style="list-style-type: none"> • 19 trees identified as primary roost trees for Indiana bat • 61 secondary Indiana bat roost trees were identified <p>One partially collapsed mine was located that is not suitable winter hibernacula</p>
Proposed Action – Runway Extension	August 2016 January 2018 (Runway 18 End)	<p>18 potential bat roost trees were identified within the project area::</p> <ul style="list-style-type: none"> • 5 trees identified as primary roost trees for Indiana bats • 13 secondary Indiana bat roost trees were identified <p>One mine ventilation shaft was located but determined not suitable winter hibernacula</p> <p><u>No potential bat roost trees present at Runway 18 End</u></p>

* Locations of the Bat Habitat Assessments areas can be found in the Executive Summary of the Bat Habitat Assessment found in **Appendix L**.

3.3 Climate

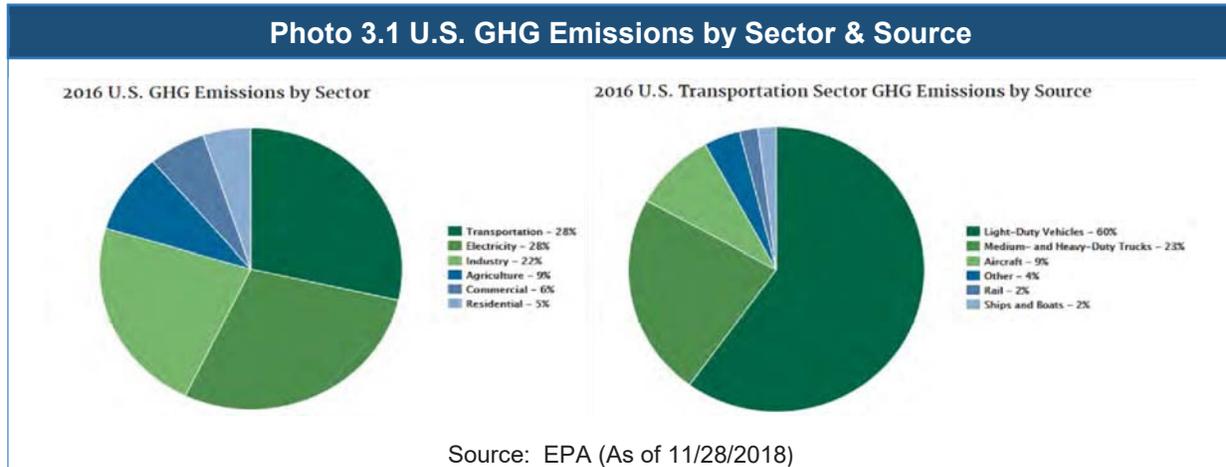
Climate change is attributed to greenhouse gases (GHGs), which are pollutants such as carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆).²³ GHG emissions result from anthropogenic sources including the combustion of fossil fuels. CO₂ is the most important anthropogenic GHG because it is a long-lived gas that remains in the atmosphere for up to 100 years. Unlike criteria pollutants, GHG emissions affects global emissions and there are no standards or thresholds of significance impacts at the project level.

There is a direct correlation between fuel combustion and GHG emissions. In terms of global contributions, the Environmental Protection Agency and Intergovernmental Panel on Climate Change (IPCC) reports that the transportation sector contributes about 14 percent of total global carbon dioxide emissions, compared with other industrial sources (21 percent), Electricity/Heat Production (25%) and Agricultural, Forestry and Other Land Uses (24%).²⁴

²³ Executive Order 136193, *Planning for Federal Sustainability in the Next Decade*.

²⁴ Environmental Protection Agency citation of IPCC, 2014: *Climate Change 2014: Mitigation of Climate Change Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*.

In addition, the EPA reports that transportation sector related emissions in the United States contribute 28% of GHG emissions, with 9% of those emissions from aircraft (**Photo 3.1**).



The scientific community is continuing efforts to better understand the impact of GHG emissions on the global atmosphere. The FAA, with support from the U.S. Global Change Research Program and its participating Federal agencies, including the EPA, has developed the Aviation Climate Change Research Initiative (ACCRI)²⁵ in an effort to advance scientific understanding of regional and global climate impacts of emissions generated or caused by airport development projects. The FAA also funds the Partnership for Air Transportation Noise & Emissions Reduction (PARTNER)²⁶ Center of Excellence research initiative to quantify the effects of aircraft exhaust and contrails on global and U.S. climate and atmospheric composition.

In 2009, the EPA issued findings under CAA section 202 that GHG emissions from motor vehicles cause or contribute to the air pollution that causes climate change endangering public health and welfare. Subsequent to this finding, EPA adopted GHG emission standards for motor vehicles under section 202 of the Act. On July 1, 2015, EPA published *Proposed Finding That Greenhouse Gas Emissions From Aircraft Cause or Contribute to Air Pollution That May Reasonably Be Anticipated To Endanger Public Health and Welfare and Advance Notice of Proposed Rulemaking; Proposed Rule*²⁷ which would allow for regulatory action on the topic under the CAA. In addition, **Table 3.7** lists the primary statutes, regulations, and Executive Orders related to climate. It should be noted that there are no additional, state specific requirements pertaining to climate change or greenhouse required in West Virginia.

²⁵ https://www.faa.gov/about/office_org/headquarters_offices/apl/research/science_integrated_modeling/accri/

²⁶ <http://partner.mit.edu/>

²⁷ Federal Register: 40 CFR Parts 87 and 1068

Table 3.7 • Statutes, Regulations, and Executive Orders Related to Climate²⁸

Statute, Regulation, or Executive Order	Location in U.S. Code or Federal Register	Implementing Regulation or Support Document	Oversight Agency	Summary
Clean Air Act	42 U.S.C. §§ 7408, 7521, 7571, 7661 et seq.	40 CFR parts 85, 86, and 600 for surface vehicles 40 CFR part 60 for stationary power generation sources	EPA	Regulates GHG emissions from on-road surface transportation vehicles and stationary power generation sources.
Executive Order 13514 Federal Leadership in Environmental Energy and Economic Performance	<i>74 Federal Register</i> 52117 (October 8, 2009)	<i>Federal Greenhouse Gas Accounting and Reporting Guidance: Technical Support Document</i> (October 26, 2010)	None	Makes it the policy of the United States that Federal agencies measure, report, and reduce their GHG emissions from direct and indirect activities. Provides for development of the Technical Support Document that establishes reporting criteria for GHGs.
Executive Order 13653, <i>Preparing the United States for the Impacts of Climate Change</i>	<i>78 Federal Register</i> 66817, (November 6, 2013)	None	None	Builds on a previously released (and since revoked) <i>EO 13514 Federal Leadership in Environmental Energy, and Economics Performance</i> to establish direction for federal agencies on how to improve on climate preparedness and reliance strategies.
Executive Order 13693, Planning for Federal Sustainability	80 Federal Register 15869 (March 25, 2015)	Implementing Instructions for E.O. 13693 – CEQ (June 10, 2015)	None	Reaffirms the policy of the United States that Federal agencies measure, report, and reduce their GHG emissions from direct and indirect activities. Sets sustainability goals for all agencies to promote energy conservation, efficiency, and management while by reducing energy consumption and GHG emissions. Builds on the adaptation and resiliency goals in EO 13693 to ensure agency operations and facilities prepare for impacts of climate change. Revokes EO 13514.

²⁸ Desk Reference. Federal Aviation Administration Office of Environment and Energy. July 2015

In the case of MGW, the Proposed Action is intended primarily to improve safety and accommodate aircraft activity currently being accommodated at other nearby airports with sufficient runway length for larger aircraft. There are no significant improvements to other facilities such as the terminal facilities or hanger facilities that are not already anticipated as part of the No Action Alternative.

Adaptation to Climate Change has not been well studied in West Virginia and there are no requirements at the state level to consider such impacts in the design of projects. MGW is located well outside any coastal areas and would not be directly impacted by sea level rise in any amount, nor would it be impacted directly by coastal storms outside of wind and rain events from the remnants of tropical systems. The project area does not include any areas that are subject to frequent flooding, nor does the project area fall within the 100 or 500-year floodplain boundaries as defined by FEMA. As a significant airport facility, there are plans in place to respond to loss of electrical power which may become more frequent in the future due to climate change. Temperature rise may have an adverse effect on pavement; however, this is not well understood and any such issues would be addressed through the airport's regular maintenance program.

Overall, MGW is unlikely to be significantly impacted by large events directly attributable to climate change, and indirect impacts will be addressed on an ongoing basis through the routine maintenance and normal, minor improvements the airport is likely to undertake.

3.4 Hazardous Materials, Solid Waste, and Pollution Prevention

Hazardous materials are substances that, because of their quantity, concentration, physical, chemical, or infectious characteristics, may present substantial danger to public health or welfare, or the environment when released or otherwise improperly managed.²⁹

Environmental databases containing information about hazardous sites from multiple sources were searched to identify known hazardous materials and waste sites in the vicinity of the project site³⁰. The results of that search showed no indications of the presence of an environmental condition that would impact the Morgantown Runway Extension Project.

A Phase I Environmental Site Assessment (ESA) was previously conducted for the FAA approved EA: *Proposed Release of Landside Development Area*, dated August 2014.³¹ That ESA, conducted for the site now referred to as the Proposed I-68 Commerce Park site, stated that there were no known hazardous materials or waste sites on the Land Development site or within a 1-mile radius of that site. Although the site was historically mined, the ESA reported that it had been re-graded and appears to be relatively stable, although some erosion was observed throughout the site. Mine spoils were observed in the soil, along with stressed vegetation that appeared to be related to coal wastes in the soil. Coal wastes are not classified as hazardous

²⁹ Resource Conservation and Recovery Act (RCRA) Subtitle C, 40 CFR Part 251.

³⁰ EDR, Morgantown Airport Runway Extension, June 10, 2015

³¹ Morgantown Municipal Airport, *Proposed Release of Landside Development Area, Environmental Assessment*, August 2014

wastes. However, apparent AMD was observed in the aquatic resources. AMD occurs when exposed rocks containing sulphur-bearing mineral pyrite react with air and water to form sulphuric acid. The report also said that the site, in general, does not appear to pose any significant environmental threats; however, any potable water sources should be tested prior to human consumption.

3.5 Historical and Archaeological Resources

A Phase I historical and archaeological investigation of the MGW project site was conducted. Per Federal guidelines (§§800.16(d), 800.4(a)), a preliminary archaeological Area of Potential Effects (APE) was defined consisting of those land parcels that may be physically impacted by proposed construction activities of the proposed undertaking (including the connected action). The defined boundaries of the APE also encompass proposed construction staging areas for the proposed undertaking. Per Federal guidelines (36 CFR § 800.16(d), 800.4(a)), a historic resources APE was defined consisting of the airport parcels and any surrounding parcels that may experience visual or auditory impacts as a result of the proposed runway extension and any larger aircraft that upon project completion may be accommodated by the longer runway. As part of this effort, coordination was initiated with the West Virginia Division of Culture and History (WVDCH), which also serves as the State Historic Preservation Office (SHPO). Native American Tribes that expressed interest during the scoping phase of the project were also included in the consultation process: Stockbridge-Munsee Tribe, United Keetowah Band of Cherokee, Delaware Tribe, Delaware Nation, and Catawba Indian Nation. Coordination letters and responses received can be found in **Appendix B**. The SHPO concurred with the recommendations that no historic or archaeological resources were eligible for the National Register of Historic Places (NRHP).

A Determination of the Area of Potential Effects Report and a Phase I Technical Report for Archaeological Resources (Cunning, Henshaw, and Lombardi 2016), in addition to subsequent addendum reports (Cunning, Lombardi, and Filkins 2016; Cunning, Lombardi, and Nones 2016), were prepared and are included in **Appendices G and H**. Following the preparation of these documents, in January 2018, modifications to the northern portion of the runway, in an area not previously surveyed, were proposed requiring an addendum to the archaeological APE. These modifications were documented in a letter to the WVDCH dated February 2, 2018 and detail the negative results of a pedestrian reconnaissance of this expanded Project Area for archaeological resources (**Appendix B**).

3.5.1 Historic Resources

Historic resources investigations were conducted for Proposed Action and Proposed I-68 Commerce Park site to assess the extent to which construction activities and future airport use may directly (physically) or indirectly (visual and auditory) impact historic properties listed in or determined eligible for listing in the NRHP. **Exhibit 3-1** illustrates historic resources identified within the APE.

Background research on the Project Area included a review of the WV SHPO Interactive Map Viewer database, which included an examination of pertinent West Virginia Historic Property Inventory (WVHPI) forms and NRHP forms, as well as a review of local and regional histories necessary to develop the required historic context. The background research revealed the presence of one (1) property previously recorded as part of the WVHPI within the historic resources APE. The field survey effort confirmed that the resource, MG-0703, has since been demolished (**Table 3.8**).

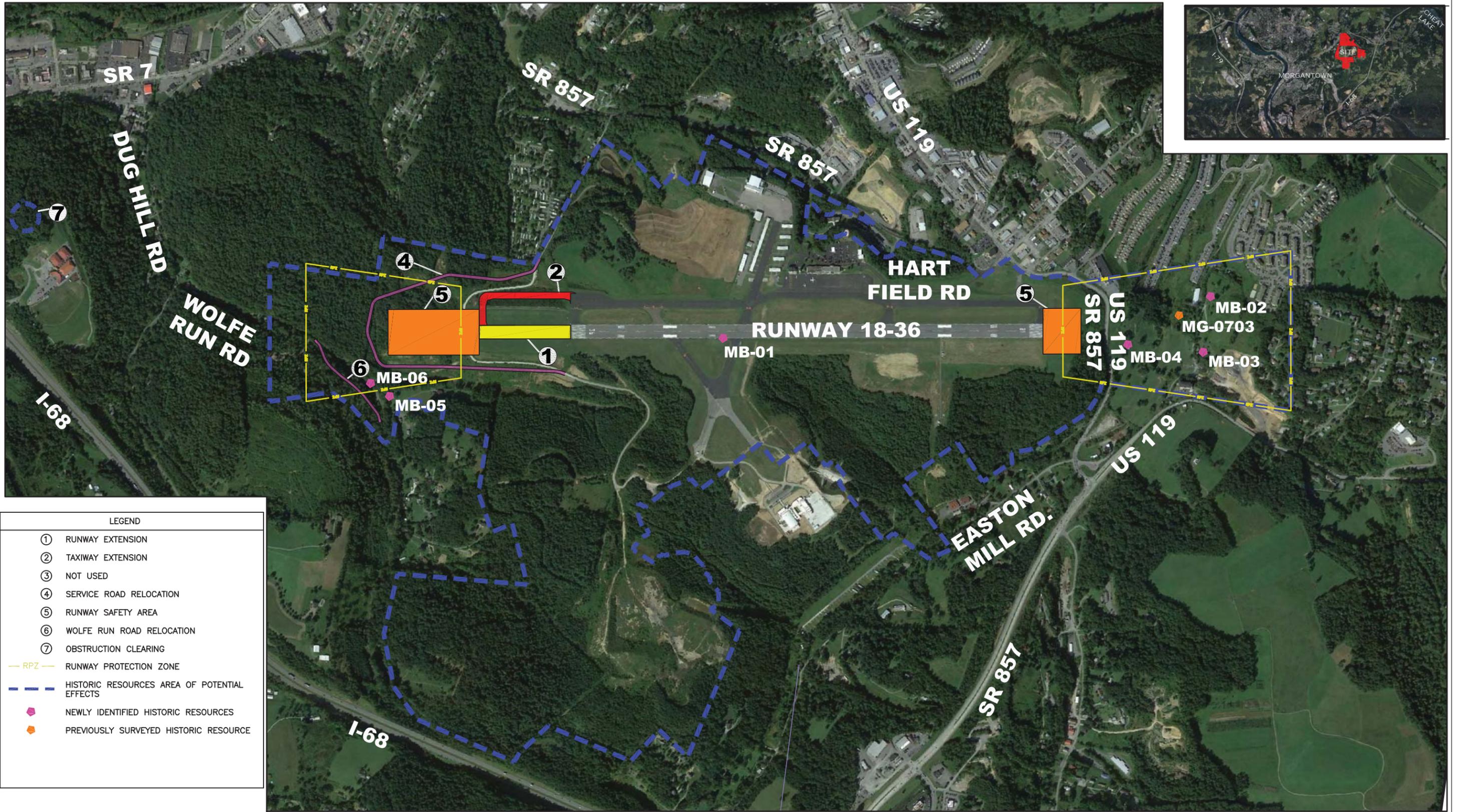
Table 3.8 • Previously Surveyed Resources within the APE

Photo	WVHPI Form ID	MB-ID #	Name	Address	Street	Status
	MG-0703	N/A	Residence	N/A	West Run Road	DEMOLISHED

A historic resources field survey was conducted to identify and evaluate for NRHP eligibility all previously undocumented properties within the APE that contain buildings, structures, objects, sites, or districts that are 50 years of age or greater, and to re-evaluate resources identified during prior surveys. Documentation of each resource included the completion of architectural resource field forms, field notes, sketches, site plans, and digital photography. There are six (6) previously undocumented historic resources within the historic resources APE. The *Historic Resources Survey and Determination of Eligibility Report* presents the results of the background research and field reconnaissance, including a historic context of the general Project Area. It assesses the eligibility of the identified resources to meet one or more of the NRHP criteria as set forth in 36 CFR § 60.4, and includes West Virginia Historic Property Inventory (WVHPI) forms for newly identified historic resources. A list of these resources is provided in **Table 3.9**.

Table 3.9 • Newly Identified Resources within the APE

Photo	MB-ID #	Name	Address	Street	Status
	MB-01	Morgantown Municipal Airport	100	Hart Field Road	Not-Eligible
	MB-02	Patty Gray and Carol Helmick House (1)	54	West Run Road	Not-Eligible
	MB-03	Patty Gray and Carol Helmick House (2)	N/A	Route 67/1	Not-Eligible
	MB-04	Patty Gray and Carol Helmick House (3)	N/A	West Run Road	Not-Eligible
	MB-05	Richard S. Crowder House	N/A	Wolfe Run Road - Route 68/2	Not-Eligible
	MB-06	Charles M. Huffman House	N/A	Wolfe Run Road	Not-Eligible



PROJECT LOCATION



LEGEND

- ① RUNWAY EXTENSION
- ② TAXIWAY EXTENSION
- ③ NOT USED
- ④ SERVICE ROAD RELOCATION
- ⑤ RUNWAY SAFETY AREA
- ⑥ WOLFE RUN ROAD RELOCATION
- ⑦ OBSTRUCTION CLEARING
- RPZ — RUNWAY PROTECTION ZONE
- - - HISTORIC RESOURCES AREA OF POTENTIAL EFFECTS
- ◆ NEWLY IDENTIFIED HISTORIC RESOURCES
- ◆ PREVIOUSLY SURVEYED HISTORIC RESOURCE

Morgantown Municipal Airport
Environmental Assessment

Exhibit 3-1

Identified Historic Resources



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0 500 1000
SCALE IN FEET

Evaluation of resources through the *Historic Resources Survey and Determination of Eligibility Report* reveals that none of the six (6) newly surveyed resources within the APE are eligible for listing in the NRHP. The SHPO concurred with these recommendations in a letter dated October 14, 2016 (**Appendix B**).

3.5.2 Archaeological Resources

Archaeological investigations were conducted for the proposed runway extension project to assess the extent to which construction activities may physically impact undisturbed, or culture-bearing soils, that contain archaeological resources that are potentially eligible for inclusion in the NRHP. In addition to coordination with WVDCH and the SHPO, all designated Native American tribal organizations with declared interests within the region were contacted. The work also entailed a review of archival data and files on previously identified archaeological resources maintained by the WVDCH.

Phase I field investigations within the archaeological APE were implemented and included pedestrian reconnaissance, surface collection, metal detector survey, and the excavation of shovel test probes. No archaeological sites were identified on the Runway 18 end of the project area. Four historic archaeological sites were identified: the Laurita Site (46MG312), Mine Site (46MG313), the Crowder Site (46MG324), and the Helen Coal Company Site (46MG325) (**Exhibit 3-2**). These sites are described below.

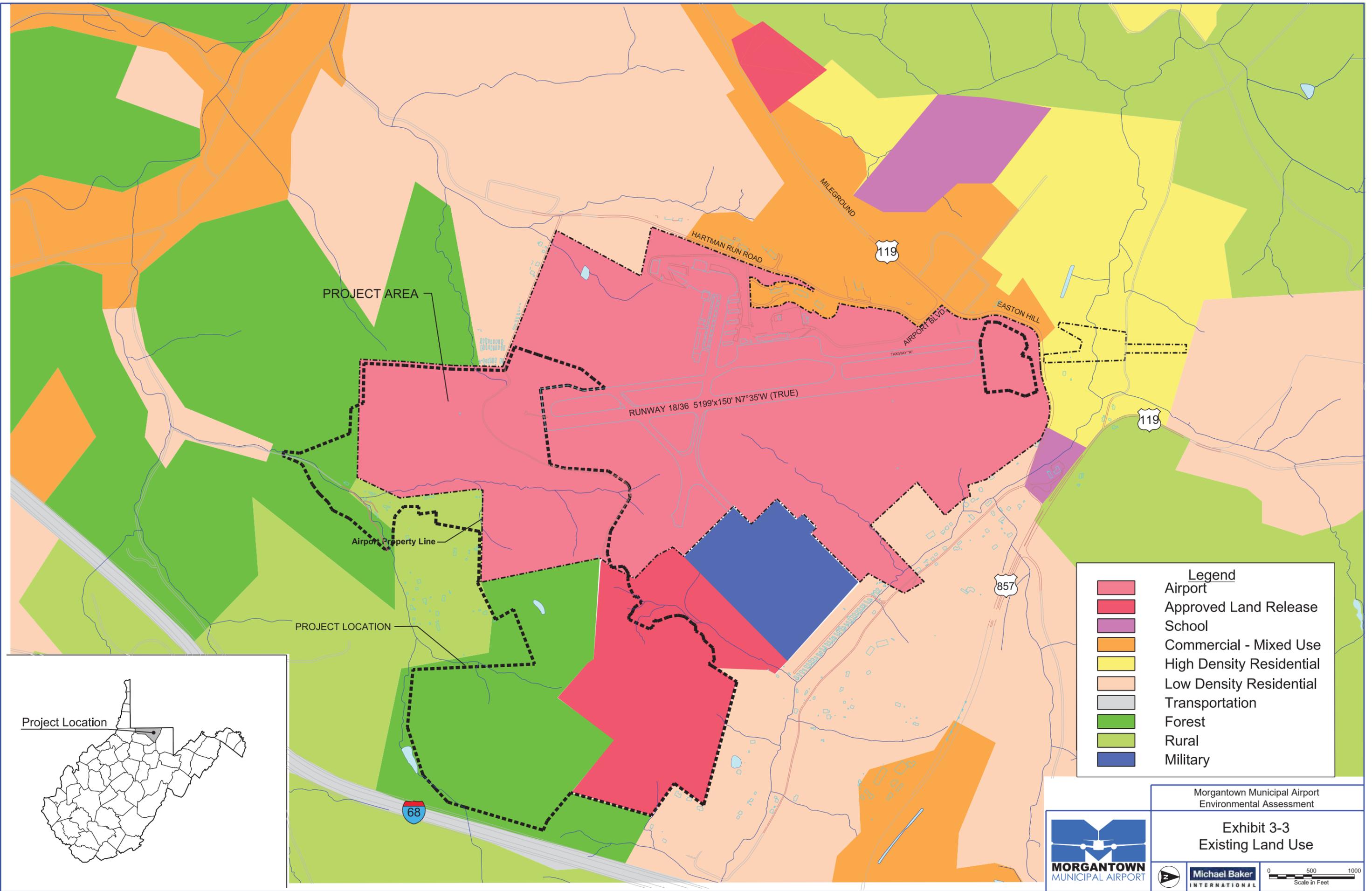
- **The Laurita Site** (46MG312) consists of a mid-to-late nineteenth century historic homestead based on the recovery of historic artifacts from subsurface contexts as well as those yielded as a result of a metal detector survey. The site was not identified on any historic mapping suggesting the building was razed or abandoned by 1886. Farmstead sites that contain only single occupations with discrete intact deposits have the potential to provide information significant to our understanding of early rural lifeways in this portion of Monongalia County. The Laurita Site may contain important information about mid to late nineteenth century farmsteads that would make it potentially eligible for inclusion in the NRHP. However, the Proposed Action would not result in ground disturbing activities and will avoid this resource; thereby having no effect on 46MG312. The SHPO concurred with these determinations in a letter dated May 2, 2016 (**Appendix B**).
- **The Mine Site** (46MG313) consists of a mid-twentieth century industrial site associated with coal mining based on the identification of a collapsed mine entrance, tramways, possible secondary entrance/equipment staging area, and collapsing mine shafts or vent holes on the adjacent ridgetop. Historic mapping indicated the mine did not exist before 1932. The mid-20th century mining activities at this locale are standard practices within this region and do not demonstrate a unique or innovative method of coal mining. Therefore, it is recommended that the Mine Site (46MG313) does not have the potential to provide information significant to our understanding of mid-20th century coal mining in this portion of Monongalia County and is recommended as not eligible for the inclusion in the NRHP. The SHPO concurred with these recommendations in a letter dated May 2, 2016 (**Appendix B**).

- **The Crowder Site** (46MG324) is a late nineteenth to late twentieth century rural farmstead. The artifact assemblage is limited and contains a brick, undecorated white ware sherds, container glass, canning jar lid liner fragments, flat glass fragments, a brass door latch, a brass shell casing, a wrench, wire nails, an unidentified nail fragment, and plastic fragments. All of the artifacts were recovered from disturbed soils. Based on the poor condition of associated structures and the lack of diagnostic artifacts, the Crowder site was recommended as not eligible for nomination to the NRHP under Criteria A, B, C, or D as it does not appear to have the potential to yield information important to the prehistory or history of West Virginia. No further archaeological work or preservation efforts are warranted for the Crowder site. The SHPO concurred with these recommendations in a letter dated August 23, 2016 (**Appendix B**).
- **The Helen Coal Company Site** (46MG325) consists of a mid-twentieth century industrial site associated with coal mining based on the identification of a mine shaft opening, the remnants of two mine cars, and bent and broken narrow gauge rails. An examination of historic mapping places the origin of the mine at the location in the late 1950s, while files maintained by the West Virginia Geological Survey identify the operation as the Helen Coal Company. The mining activities identified at this locus represent standard practices within this region and do not demonstrate a unique or innovative method of coal mining. Therefore, it is recommended that the Helen Coal Company Site (46MG325) the site was recommended not eligible for nomination to the NRHP as it is unlikely to provide significant information on mid-twentieth century coal mining. No further archaeological work or preservation efforts are warranted. The SHPO concurred with these recommendations in a letter dated September 19, 2016 (**Appendix B**).

3.6 Land Use

MGW is located within the City of Morgantown, West Virginia in Monongalia County. Land use classifications for the immediate areas surrounding MGW are: commercial mix use, high density residential, school, low density residential, forest, and rural as shown in **Exhibit 3-3**. The Proposed I-68 Commerce Park site is currently being planned and developed on the eastern side of the airport on land that has been transferred from the Airport to the MCDA.

Residences are located adjacent to the project area, including the Woodland Terrace community and the dispersed homes along Wolfe Run Road on the Runway 36 end. The City of Morgantown's 2013 *Comprehensive Plan* identifies planned land use management areas for future development and preservation (**Exhibit 3-4**). Residences and commercial businesses are adjacent to the project area within the vicinity of the Runway 18 end. The airport property is considered developed with adjunct land uses ranging from Limited Growth areas to Controlled Growth/Traditional Neighborhood Areas to Encouraged Growth Areas.



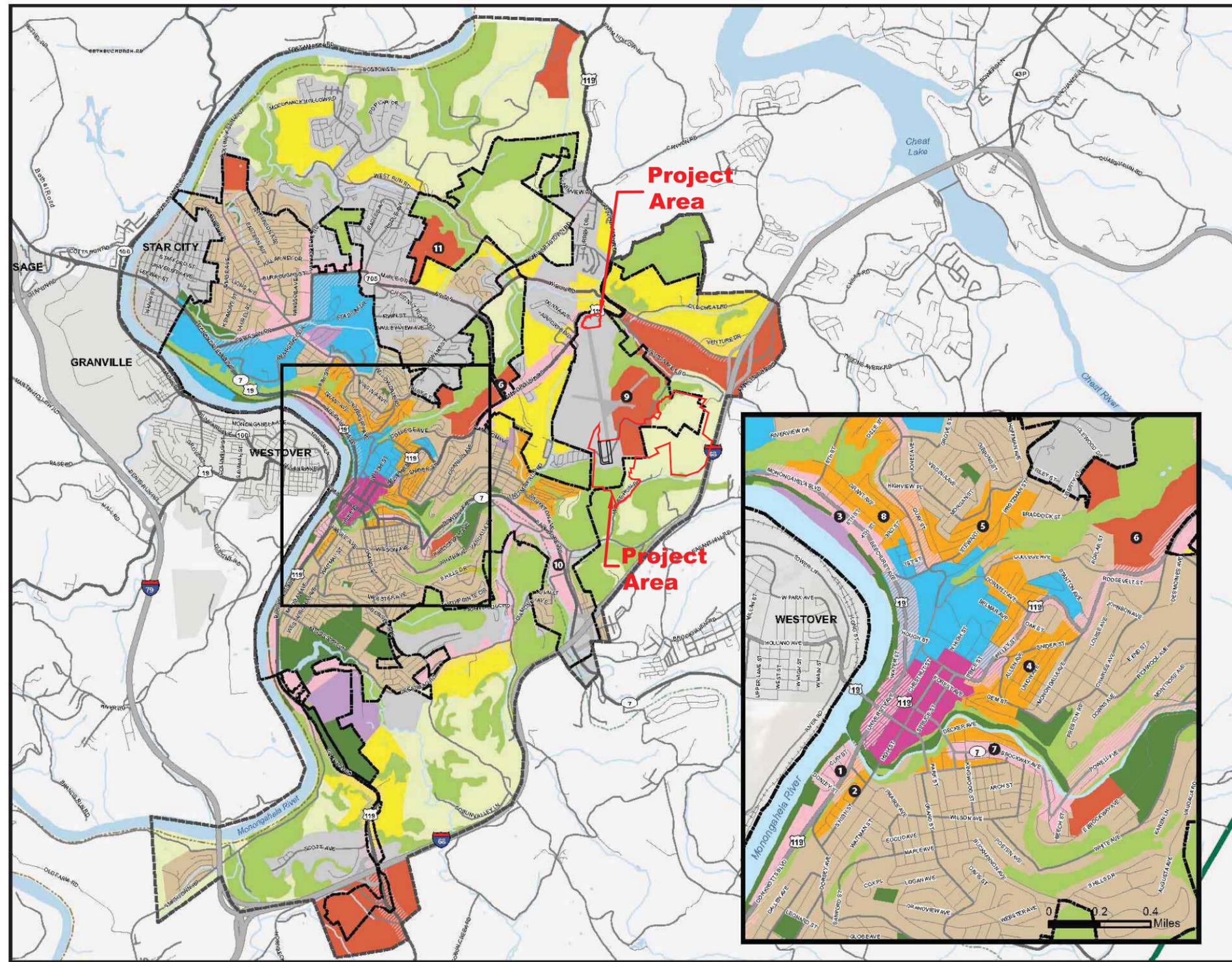
Legend	
	Airport
	Approved Land Release
	School
	Commercial - Mixed Use
	High Density Residential
	Low Density Residential
	Transportation
	Forest
	Rural
	Military



Morgantown Municipal Airport
Environmental Assessment

Exhibit 3-3
Existing Land Use

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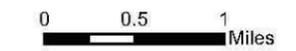


**MAP 4
LAND MANAGEMENT**

- Preserve
- Reserve
- Limited Growth
- Neighborhood Conservation
- Downtown Enhancement
- Corridor Enhancement
- WVU Campus Development
- Neighborhood Revitalization
- Infill and Redevelopment
- Encouraged Growth
- Controlled Growth/Traditional Neighborhood Area
- Developed Areas
- Roads
- Water Bodies
- Morgantown Boundary
- Study Area

Areas of Opportunity

- 1** Waterfront / Wharf District
- 2** South High Street and University Avenue
- 3** Beechurst Avenue Corridor
- 4** North Willey Street / Richwood Avenue Area
- 5** Stewart Street Area
- 6** 705 University Farms Area
- 7** Brockway Avenue Corridor (Route 7)
- 8** Sunnyside
- 9** Airport Technology Park
- 10** Sabraton, Earl L. Core Rd.
- 11** University Research Park



Revised : 3/20/2013

PROJECT LOCATION



Source: City of Morgantown, West Virginia. *Comprehensive Plan, 2013 Update*. "Appendix A: Resource Documents". Page 11.



Morgantown Municipal Airport
Environmental Assessment
Exhibit 3-4
Future Land Use



Michael Baker
INTERNATIONAL

3.7 Noise and Noise Compatible Land Use

FAA has a national policy that airports be constructed and operated to minimize current and future noise impacts on surrounding communities.³⁵ The Day-Night Average Sound Level (DNL) noise metric is used to determine the cumulative aircraft noise exposure to a surrounding neighborhood. The DNL uses a twenty-four hour logarithmic average of noise levels in A-weighted decibels (dBA), as required by FAA for conducting a noise analysis.

Noise is measured in a logarithmic scale instead of a linear scale, since human hearing has a broad range of amplitude. Noise is considered more of an annoyance at night while most people are sleeping, and to account for this, the DNL metric requires the addition of a 10 decibel penalty (twice as loud) to nighttime operations taking place between the hours of 10 p.m. and 7 a.m. The DNL noise metric was developed by EPA and is used by FAA, the U.S. Department of Housing and Urban Development, and other federal agencies concerned with community noise levels.

The FAA guidelines for land use compatibility within DNL sound levels are listed in 14 CFR Part 150, *Airport Noise Compatibility Planning*. All land uses are normally considered compatible with noise levels of less than 65 DNL. Noise sensitive land uses such as residences, schools, nursing homes and churches are generally considered incompatible with noise levels of 65 DNL or greater unless adequate measures to achieve reduction in noise levels (soundproofing) are designed within the structure. Land uses that are less sensitive to noise levels, such as office buildings, are considered compatible with noise levels of 70 DNL without any soundproofing measures and up to 80 DNL with soundproofing.

At MGW, existing noise in terms of DNL was estimated using Aviation Environmental Design Tool (AEDT), Version 2b. AEDT is the FAA's required tool for conducting a noise analysis. Effectively modeling airport noise requires many simplifying assumptions to be made regarding the data for AEDT input variables. The following is a summary of the operational data utilized to model existing noise conditions.

3.7.1 Current Airport Operation Levels

Current airport operation levels were determined using the most recent twelve (12) months of operations logged at MGW. This period is January 1, 2017 to December 31, 2017 which is summarized, by category of operations in **Table 3.10**. In the previous year, the airport recorded an estimated 51,364 takeoffs and landings, including 35,745 itinerant operations and 15,619 local operations.

Itinerant operations are considered operations that arrive to the airport from outside the airport area, or depart the airport and leave the airport area. Local operations are considered those operations that remain within the airport traffic pattern or within close proximity of the airport. For the purposes of noise modeling, all local operations are considered flight training activity (touch-and-go) or helicopter operations.

³⁵ 49 U.S.C. §47101(a)(2)
Affected Environment

Commercial operations are primarily recorded in the Air Carrier, Air Taxi, and General Aviation categories. Air Carrier operations are defined by aircraft having a seating capacity of greater than 60 seats or a maximum payload capacity of more than 18,000 pounds carrying passengers or cargo for hire or compensation. Air taxi operations are defined by aircraft having a maximum seating capacity of 60 seats or less or a maximum payload capacity of 18,000 pounds or less carrying passengers or cargo for hire or compensation. General Aviation (GA) includes takeoffs and landings of all civil aircraft excluding air carriers and taxis. At MGW, the majority of commercial airport activity is recorded by air traffic control in the Air Taxi category.

Table 3.10 • MGW Existing Operations

Year	Itinerant Operations					Local Operations			Total Operations
	Air Carrier	Air Taxi	GA	Military	Total	Civil	Military	Total	
Existing Year	0	20,080	11,717	1,948	35,745	14,965	654	15,619	51,364

Source: FAA Air Traffic Activity System (ATADS)

3.7.2 Fleet Mix

The existing airport fleet mix is provided in the *2012 Master Plan Update*. These percentages were analyzed and updated using the most recent twelve months of operational data. **Table 3.11** presents the existing operational fleet mix for the following equipment types operating at MGW: Piston, Turboprop, Jet, Military and Helicopter.

Table 3.11 • Existing Fleet Mix and Operations by Type

Equipment Type	Percentage	Annual Operations	Average Daily Operations
Piston (Single and Multi)	47%	24,141	66.1
Turboprop (Single and Multi)	40%	20,456	56.3
Jet	5%	2,568	5.9
Military	5%	2,568	7.5
Helicopter	3%	1,541	4.6
Total	100%	51,364	140.5

Utilizing FAA Traffic Flow Management System Counts (TFMSC), representative aircraft models and their distribution within each category were estimated and assigned AEDT representative noise codes. For noise modeling purposes, military and helicopter aircraft are broken out separately. These assignments are presented in **Tables 3.12 to 3.16**.

Table 3.12 • Fleet Mix- Piston Aircraft

Example Aircraft	Noise Code	Percentage of Category
Aero Commander, Beech 18/23/25/55/58/60/65, Cessna 301/340/401/414/421, Piper PA23/27/31/34/44	BEC58P	25%
Cessna 152/172	CNA172	15%
Cessna 177/182	CNA182	9%
Cessna 206	CNA206	1%
Beech Bonanza, Cessna 210	CNA208	7%
Piper Malibu	CNA441	1%
Cirrus SR20/22	COMSEP	14%
AA-5 Traveler, Diamond Star DA 40,	GASEPF	8%
Mooney M-20C, Piper Cherokee Six,	GASEPV	13%
Piper PA-28	PA28	7%
<i>Source: Michael Baker International, 2018</i>		100%

Table 3.13 • Fleet Mix- Turboprop Aircraft

Example Aircraft	Noise Code	Percentage of Category
Cessna Caravan, Pilatus PC-12	CNA208	15%
Cessna 441 Conquest, Piper Malibu, TBM Socata	CNA441	1%
Gulfstream Commander, Beech King Air 90/100/200/300/350	DHC6	29%
Piper PA-42 Cheyenne	PA42	4%
Saab SF 340/2000	SF340	52%
<i>Source: Michael Baker International, 2018</i>		100%

Table 3.14 • Fleet Mix- Jet Aircraft

Example Aircraft	Noise Code	Percentage of Category
Challenger 300/600/601/604	CL600	3%
Citation 1/1-SP/CJ2/CJ3/C525	CNA500	19%
Citation 2, Embraer Phenom, Raytheon Premier	CNA55B	16%
Citation 5	CNA560U	28%
Citation Excel/560XL	CNA560XL	3%
Citation Sovereign	CNA680	2%
Beechjet 400, Dornier 328JET, Citation 10, Falcon 7X/2000, Gulfstream 200	CNA750	5%
Falcon 50/900	COMJET	1%
Eclipse, VLJ	ECLIPSE500	1%
Falcon 20	FAL20	3%
Gulfstream IV	GIV	1%
Gulfstream V	GV	2%
Gulfstream G150/G280, Westwind 1125/1125	IA1125	8%
Lear 25	LEAR25	1%
Learjet 31/35/40/45/55/60	LEAR35	8%
<i>Source: Michael Baker International, 2018</i>		100%

Table 3.15 • Fleet Military Aircraft

Example Aircraft	Noise Code	Percentage of Category
Lockheed 130 Hercules, E-2 Hawkeye, C-2 Greyhound	C130	98%
Beech Mentor T-34C	T34	2%
<i>Source: Michael Baker International, 2018</i>		100%

Table 3.16 • Fleet Mix- Helicopter Aircraft

Example Aircraft	Noise Code	Percentage of Category
Eurocopter EC-135/145	EC130	100%

Source: Michael Baker International, 2018

In order to prepare airport noise contours, it is necessary to estimate the number of operations occurring at night between the hours of 10:00 p.m. and 7:00 a.m. In general, approximately 93% of operations occur during daytime hours. **Table 3.17** provides the percentage of daytime and nighttime operations for each category: Air Carrier, Air Taxi, General Aviation Itinerant, Military Itinerant, Civil Local and Military Local. Air carrier and local military operations do not typically occur during these time periods.

Table 3.17 • Day/Night Operational Percentages

Operational Category	Daytime	Nighttime
Air Carrier	100%	0%
Air Taxi	93%	7%
GA Itinerant	93%	7%
Military Itinerant	93%	7%
Civil Local	93%	7%
Military Local	100%	0%

Source: 2012 Master Plan Update for Morgantown Municipal Airport

3.7.3 Flight Tracks

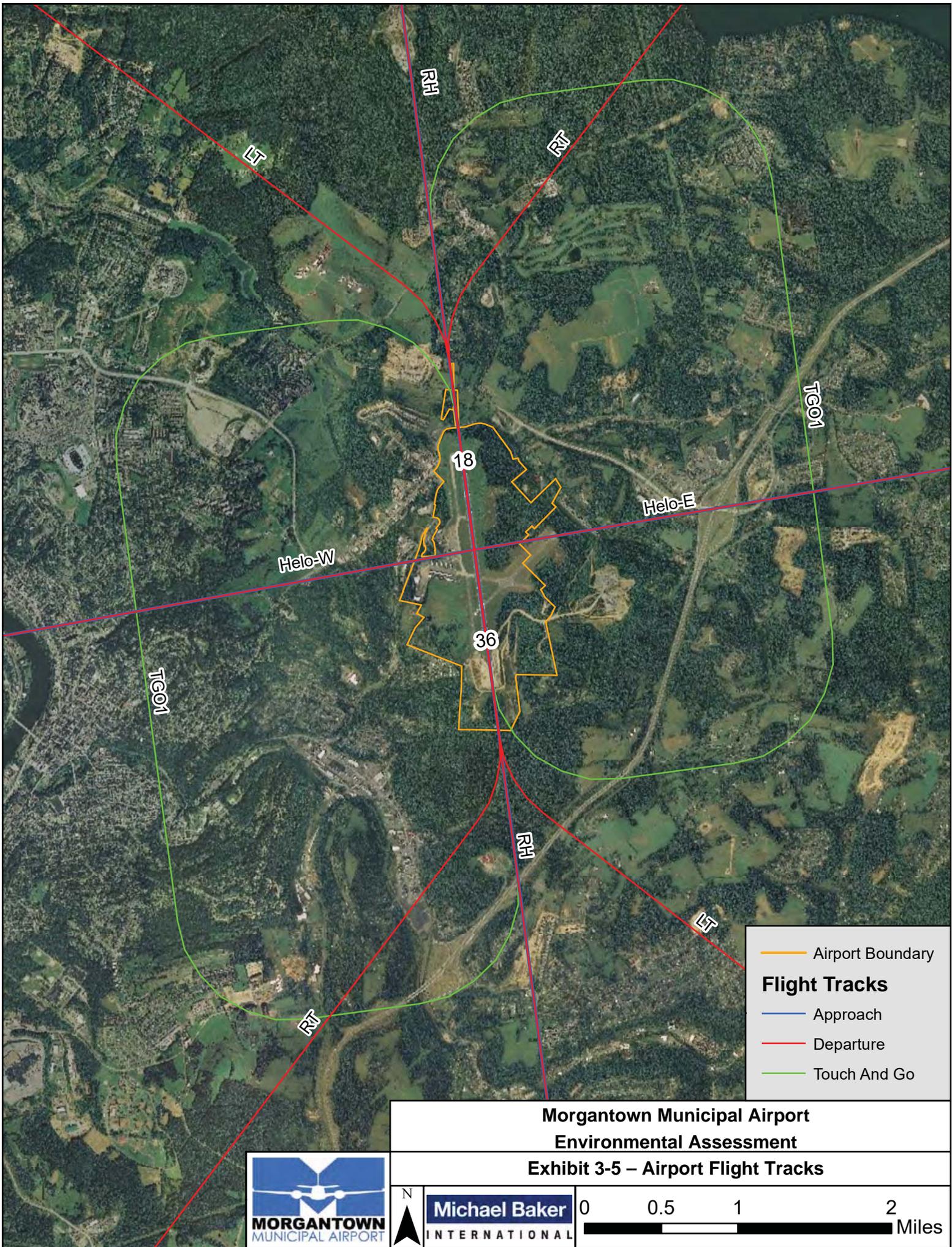
Flight tracks represent the typical paths aircraft fly when arriving or departing MGW and the standard air traffic pattern. Flight tracks developed for the noise analysis represent common flight paths flown by aircraft but do not delineate exact corridors aircraft must fly. Flight tracks utilized in the AEDT model are depicted in **Exhibit 3-5**.

3.7.4 Airport Daily Operations

Using the operational estimates and fleet mix analysis, existing airport daily operations by representative aircraft types were determined and inputted into AEDT. **Table 3.18** presents the estimated daily operations for existing conditions at MGW.

3.7.5 Existing Noise Exposure

With the stated assumptions and inputs described in this section, AEDT was utilized to generate NDL noise contour maps for existing conditions at MGW as depicted on **Exhibit 3-6**. DNL noise contours are shown beginning at 65 DNL and increasing in five (5) dB increments. The 65 DNL at MGW remains almost entirely on airport property with the exception of 4.31 acres immediately north of the airport and less than an acre immediately south. The land uses within these off-airport areas are farmland with no residential structures or noise sensitive land uses.



	Airport Boundary
Flight Tracks	
	Approach
	Departure
	Touch And Go

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Environmental Assessment**

Exhibit 3-5 – Airport Flight Tracks



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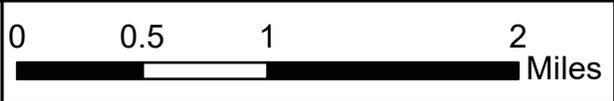
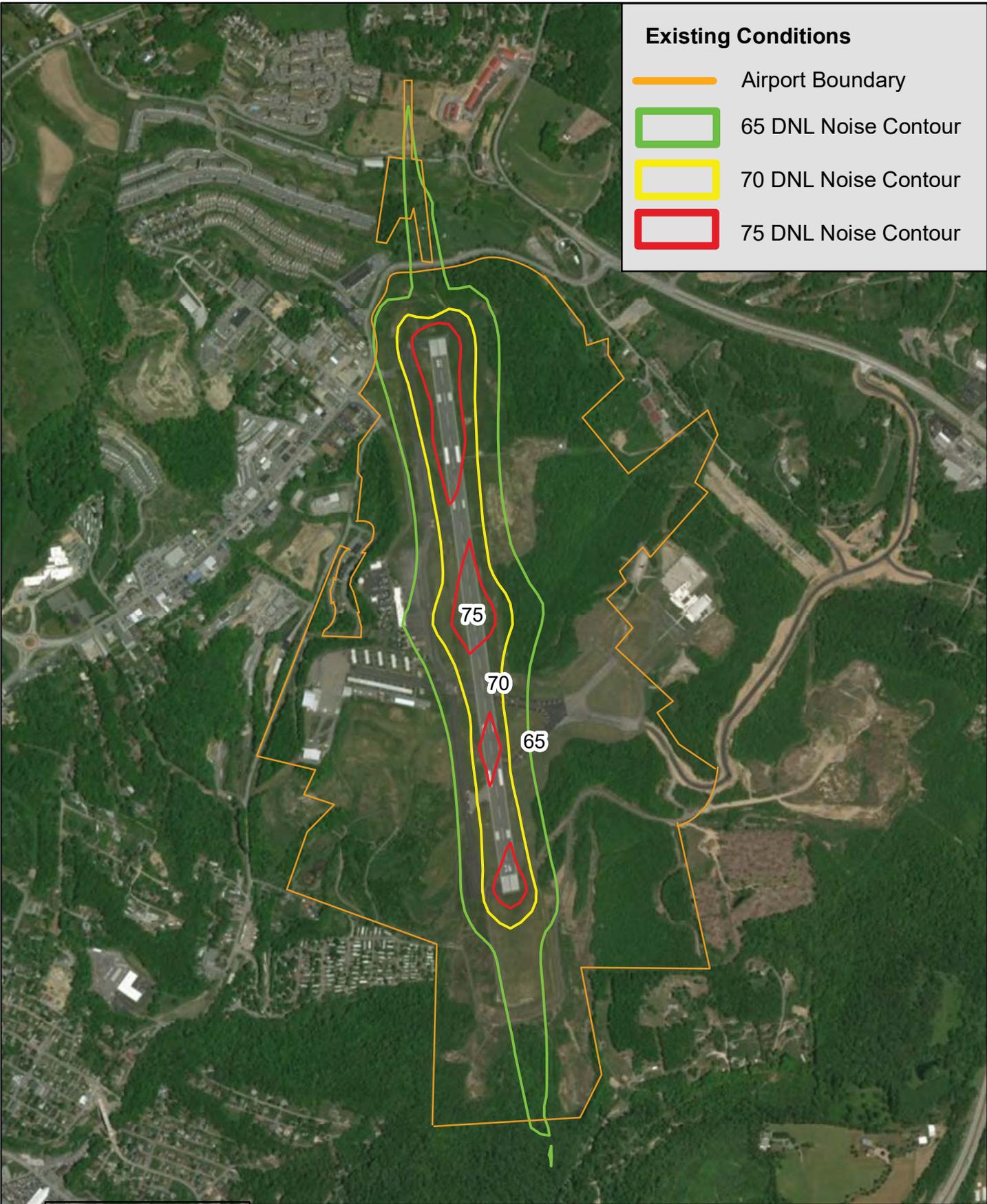


Table 3.18 • Average Daily Operations- Existing Conditions

Average Daily Operations - Existing Condition												
		Existing Conditions										
Aircraft Type	Noise Code	Annual Operations		Touch-and-Go		Daily Takeoffs		Daily Landings		Daily Touch-and-Go		
		Day	Night	Day	Night	Day	Night	Day	Night	Day	Night	
Jet Aircraft												
Challenger 300/600/601/604	CL600	3%	59	4			0.08	0.01	0.08	0.01		
Citation 1/1-SP/CJ2/CJ3/C525	CNA500	19%	428	32			0.59	0.04	0.59	0.04		
Citation 2, Embraer Phenom, Raytheon Premier	CNA55B	16%	350	26			0.48	0.04	0.48	0.04		
Citation 5	CNA560U	28%	625	47			0.86	0.06	0.86	0.06		
Citation Excel/560XL	CNA560XL	3%	77	6			0.11	0.01	0.11	0.01		
Citation Sovereign	CNA680	2%	46	3			0.06	0.00	0.06	0.00		
Beechjet 400, Dornier 328JET, Citation 10, Falcon 7X/2000, Gulfstream 200	CNA750	5%	100	8			0.14	0.01	0.14	0.01		
Falcon 50/900	COMJET	1%	27	2			0.04	0.00	0.04	0.00		
Eclipse, VLJ	ECLIPSE500	1%	15	1			0.02	0.00	0.02	0.00		
Falcon 20	FAL20	3%	67	5			0.09	0.01	0.09	0.01		
Gulfstream IV	GIV	1%	23	2			0.03	0.00	0.03	0.00		
Gulfstream V	GV	2%	33	3			0.05	0.00	0.05	0.00		
Gulfstream G150/G280, Westwind 1125/1125	IA1125	8%	170	13			0.23	0.02	0.23	0.02		
Lear 25	LEAR25	1%	19	1			0.03	0.00	0.03	0.00		
Learjet 31/35/40/45/55/60	LEAR35	8%	173	13			0.24	0.02	0.24	0.02		
	Total	100%	2,213	167			3.03	0.23	3.03	0.23		
Cessna Caravan, Pilatus PC-12	CNA208	25%	5,725	431			7.84	0.59	7.84	0.59		
Cessna 441 Conquest, Piper Malibu, TBM Socata	CNA441	2%	458	34			0.63	0.05	0.63	0.05		
Gulfstream Commander, Beech King Air 90/100/200/300/350	DHC6	50%	11,449	862			15.68	1.18	15.68	1.18		
Piper PA-42 Cheyenne	PA42	7%	1,603	121			2.20	0.17	2.20	0.17		
Saab SF 340/2000	SF340	16%	3,664	276			5.02	0.38	5.02	0.38		
	Total	100.00%	22,898	1,724			31.37	2.36	31.37	2.36		
Piston Aircraft												
Aero Commaner, Beech 18/23/25/55/58/60/65, Cessna 301/340/401/414/421, Piper PA23/27/31/34/44	BEC58P	25%	1,604	121			2.20	0.17	2.20	0.17		
Cessna 152/172	CNA172	15%	962	72			1.32	0.10	1.32	0.10		
Cessna 177/182	CNA182	9%	570	43			0.78	0.06	0.78	0.06		
Cessna 206	CNA206	1%	53	4			0.07	0.01	0.07	0.01		
Beech Bonanza, Cessna 210	CNA208	7%	431	32			0.59	0.04	0.59	0.04		
Piper Malibu	CNA441	1%	63	5			0.09	0.01	0.09	0.01		
Cirrus SR20/22	COMSEP	14%	885	67			1.21	0.09	1.21	0.09		
AA-5 Traveler, Diamond Star DA 40,	GASEPF	8%	496	37	11,398		0.68	0.05	0.68	0.05	15.61	
Cessna 210, Mooney M-20C, Piper Cherokee Six,	GASEPV	13%	805	61	1,266		1.10	0.08	1.10	0.08	1.73	
Piper PA-28	PA28	7%	451	34			0.62	0.05	0.62	0.05		
	Total	100%	6,321	476	12,665		8.66	0.65	8.66	0.65	17.35	
Military Aircraft												
Lockheed 130 Hercules, E-2 Hawkeye, C-2 Greyhound	C130	98%	1,767	133			2.42	0.18	2.42	0.18		
Beech Mentor T-34C	T34	2%	45	3	654		0.06	0.00	0.06	0.00	0.90	
	Total		1,812	136	654		2.48	0.19	2.48	0.19	0.90	
Helicopter												
Eurocopter EC-135/145	EC130	100%	1,253	1,048			1.72	1.44	1.72	1.44		
	Total		1,253	1,048			1.72	1.44	1.72	1.44		
Total Annual Operations	Total		34,496	3,550	13,319		47.26	4.86	47.26	4.86	18.25	

Totals may not add due to rounding



Existing Conditions

-  Airport Boundary
-  65 DNL Noise Contour
-  70 DNL Noise Contour
-  75 DNL Noise Contour



**Morgantown Municipal Airport
Environmental Assessment**

Exhibit 3-6 - Noise Contour Map - Existing Noise Conditions

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Miles

3.8 Socioeconomics, Environmental Justice, and Children’s Health and Safety Risks

3.8.1 Population and Housing

Between 2012 and 2016, population in the City of Morgantown and Monongalia County increased by 7.8% and 8.8% respectively, whereas the state total declined 1.2%.³³ Population growth is attributed to a consistent increase in enrollment at WVU as well as employment opportunities at two hospitals, federal government facilities, and the businesses related to the Marcellus Shale gas exploration. Population is anticipated to continue to increase 0.7% annually over the next five years.³⁴ **Table 3.19** provides population data for the project area (Census Tract 108), as well as for the City of Morgantown, Monongalia County, and West Virginia. **Exhibit 3-7** illustrates the boundary of Census Tract #108, which encompasses the entire project area.

3.19 • Select Demographic Characteristics

Census Category	Census Tract # 108	City of Morgantown	Monongalia County	West Virginia
Total Population	4,633	30,364	102,827	1,846,092
Minority Population	8%	14%	10%	7%
Median Age (years)	30.7	24.0	30.6	41.9
Under Age 5	5%	2%	5%	6%
Over Age 64	10%	9%	11%	18%
Median Household Income	\$49,223	\$35,502	\$47,060	\$42,644
Low Income Population	37%	43%	33%	30%
Unemployed	3%	4%	4%	4%

Source: U.S. Census Bureau, 2012-2016 American Community Survey (ACS) 5-year Estimates. Percentages have been rounded to the nearest whole number.

The U.S. Census Bureau data indicates that the median household income for Census Tract #108 is higher and unemployment rate is lower than that reported for the City of Morgantown, the County and state of West Virginia.

According to the 2013 *City of Morgantown Comprehensive Plan*, the median home value in Morgantown (\$176,700) is 15% higher than the county median and 85% above the state’s median value. Seventy five percent of the housing stock is concentrated between \$100,000 and \$300,000, whereas county and state are more evenly disbursed across the spectrum of values. Approximately 80% of WVU’s student body lives off -campus, and those students make up two-

³³ U.S. Census Bureau: State and County QuickFacts.

<https://www.census.gov/quickfacts/table/HSG030210/54061,5455756,54> . Accessed on 01/11/2018.

³⁴ Bureau of Business & Economic Research, West Virginia University. *Greater Morgantown Area. Morgantown: Economic Outlook 2016.* <http://business.wvu.edu/files/d/6f74a5ec-ab03-49b9-b594-1d037e30ab10/bber-2015-10.pdf> Accessed on 01/19/17.

thirds of the county’s renters. Therefore, the majority of new housing developments that occur within the vicinity of Morgantown are for housing with five or more units.

3.8.2 Economic Activity, Income & Employment

The City of Morgantown is the County seat. The most recently-released Bureau of Labor Statistics unemployment figures (July 2017) for the Morgantown Metropolitan Statistical Area (“Morgantown MSA”) indicate a 4.0 percent unemployment rate as compared to state and national averages of 5.0 percent and 4.6 percent, respectively. According to the Bureau of Business and Economic Research at West Virginia University, employers in the north-central region of West Virginia have added more than 6,000 jobs since 2010, which translates to growth of around six percent. Growth in the County economy and per capita personal income also exceeded state and national averages since 2010. According to the United States Bureau of Economic Analysis, from 2005 to 2015, the compound annual growth rate was 3.8 percent in the County compared to 3.3 percent in the State and 3.0 percent for the United States.

Table 3.20 presents the greatest industry employment sectors. With WVU located within the City of Morgantown and Monongalia County. The majority of area employment is in the fields of Education, Health Care, and Social Services.

Table 3.20 • Select Economic Characteristics

Census Category	Census Tract # 108	City of Morgantown	Monongalia County	West Virginia
Total Civilian Employed Population	N/A	13,598	52,388	812,480
Retail Trade	N/A	10%	10%	12%
Professional, Scientific, Mgmt., Administrative, & Waste Mgmt. Services	N/A	12%	10%	8%
Educational Services, Health Care, & Social Assistance	N/A	38%	36%	27%
Arts, Entertainment, Recreation, Accommodation, & Food Services	N/A	18%	11%	9%
All Others	N/A	22%	33%	44%

Source: U.S. Census Bureau, 2012-2016 ACS 5-year Estimates.
 Percentages have been rounded to the nearest whole number.

Projected increases in labor force in the Greater Morgantown Area are anticipated to maintain a lower unemployment rate than the statewide average in the next five years. The professional and business services, education and health, construction, and leisure and hospitality sectors are expected to produce above-average rates of job growth going forward.

3.8.3 Public Services and Social Conditions

There are no public facilities or services located within the project area. However, several facilities are located within the Morgantown area. These include but not limited to a fire station, several

public school facilities, WVU, US Postal Service post offices, and several places of worship. MGW has its own fire and emergency response service.

3.8.4 Environmental Justice

Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. In accordance with Executive Order 12898, “Environmental Justice” populations refer to minority and/or low-income populations. Low-income refers to persons whose median household income is at or below the Department of Health and Human Services poverty guidelines. In 2017, an individual with an annual income of \$12,060 or less, or a family of four with an annual income of \$24,600 or less, is considered to part of a low-income population.³⁵ Minorities are not substantially represented in the project area (total of eight percent). However, low-income populations represent the majority of the population within Census Tract 108. The 37% of low-income populations within Census Tract 108 are in the 92nd percentile for the state. EPA provides an Environmental Justice Screening and Mapping Tool, EJSCREEN. **Exhibits 3-8** and **3-9** illustrate the minority and low-income populations, respectively, within Census Tract 108 and the surrounding areas.³⁶

EPA identifies six demographic groups that can be an indicator of populations susceptibility to environmental pollution. In addition to minority, low-income, and children under the age of five, the remaining three groups include: populations over the age of 64, populations with less than a high school education, and linguistically isolated populations. Within Census Tract 108, 10% of the population is over the age of 64, 34% have less than a high school education, and 0% are linguistically isolated. **Exhibits 3-11** through **3-13** illustrate these percentages relative to the surrounding Census Tracts.

3.8.5 Children’s Health and Safety Risks

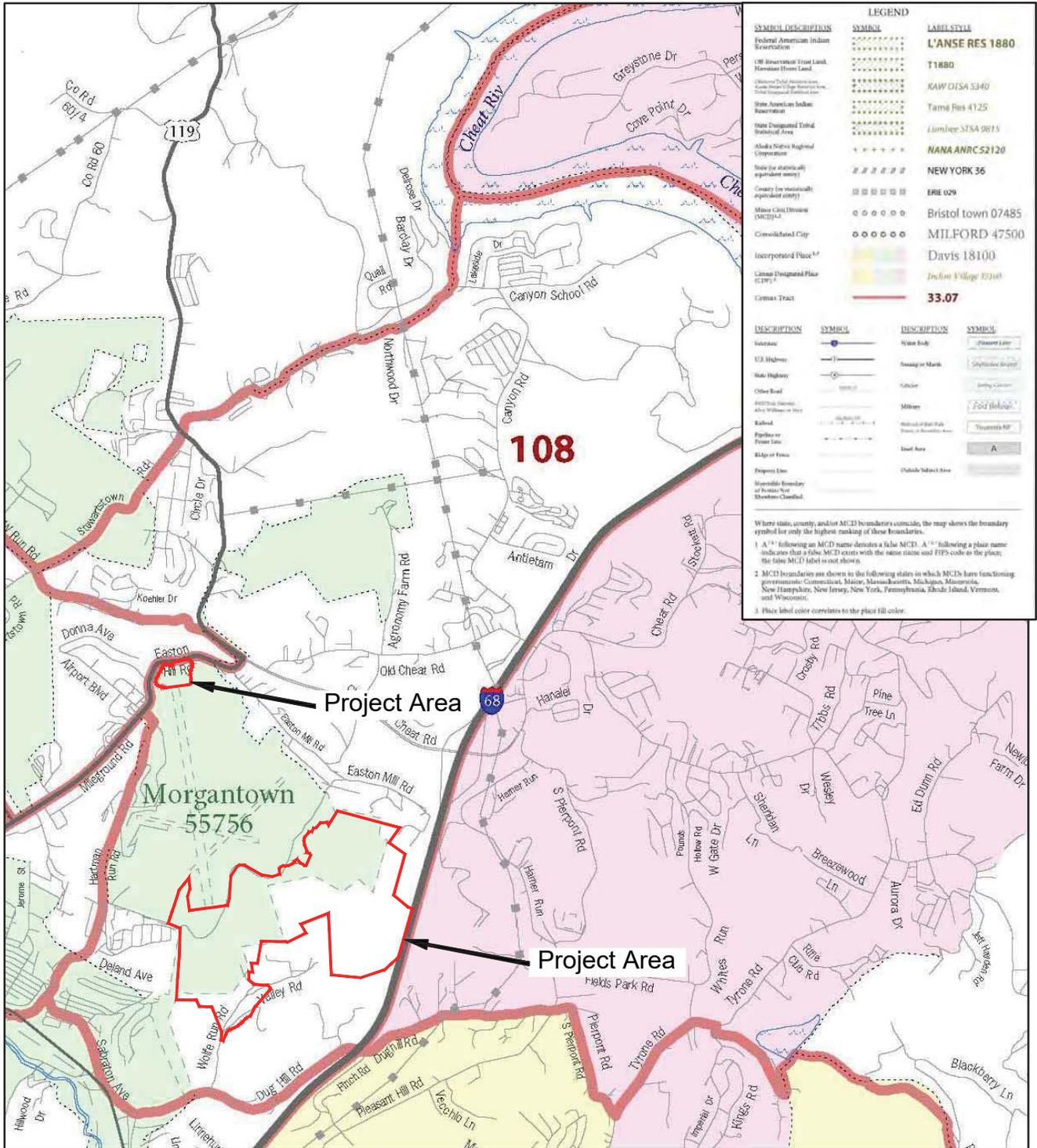
Pursuant to Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks, Federal agencies are directed to identify and assess environmental health and safety risks that may disproportionately affect children. Impacts to children are considered separately in NEPA reviews because children may experience a different intensity of impact compared to an adult exposed to the same event. Children under age 5 are more susceptible than adults to environmental hazards due to the fact they are more heavily exposed to toxins in proportion to their body weight. In addition, children between 5-18 years of age face higher risks of exposure due to their growing participation in activities outside of the home. Within Census Tract 108, the US Census Bureau’s ACS 2012-2016 indicate that Census Tract 108 population under the age of 5 is 4.5%, ages 5-9 is 3.5%, ages 10-14 is 5.1%, and ages 15-19 is 4.5%. This

³⁵ U.S. Department of Health and Human Services. Office of the Assistant Secretary for Planning and Evaluation. 2017 Poverty Guidelines in Effect as of January 26, 2017. Accessed on 01/11/2018.

³⁶ U.S. Environmental Protection Agency. EJScreen: Environmental Justice Screening and Mapping Tool. Accessed 01/10/18 at <http://ejscreen.epa.gov/mapper/index.html?wherestr=morgantown%2C+ww>.

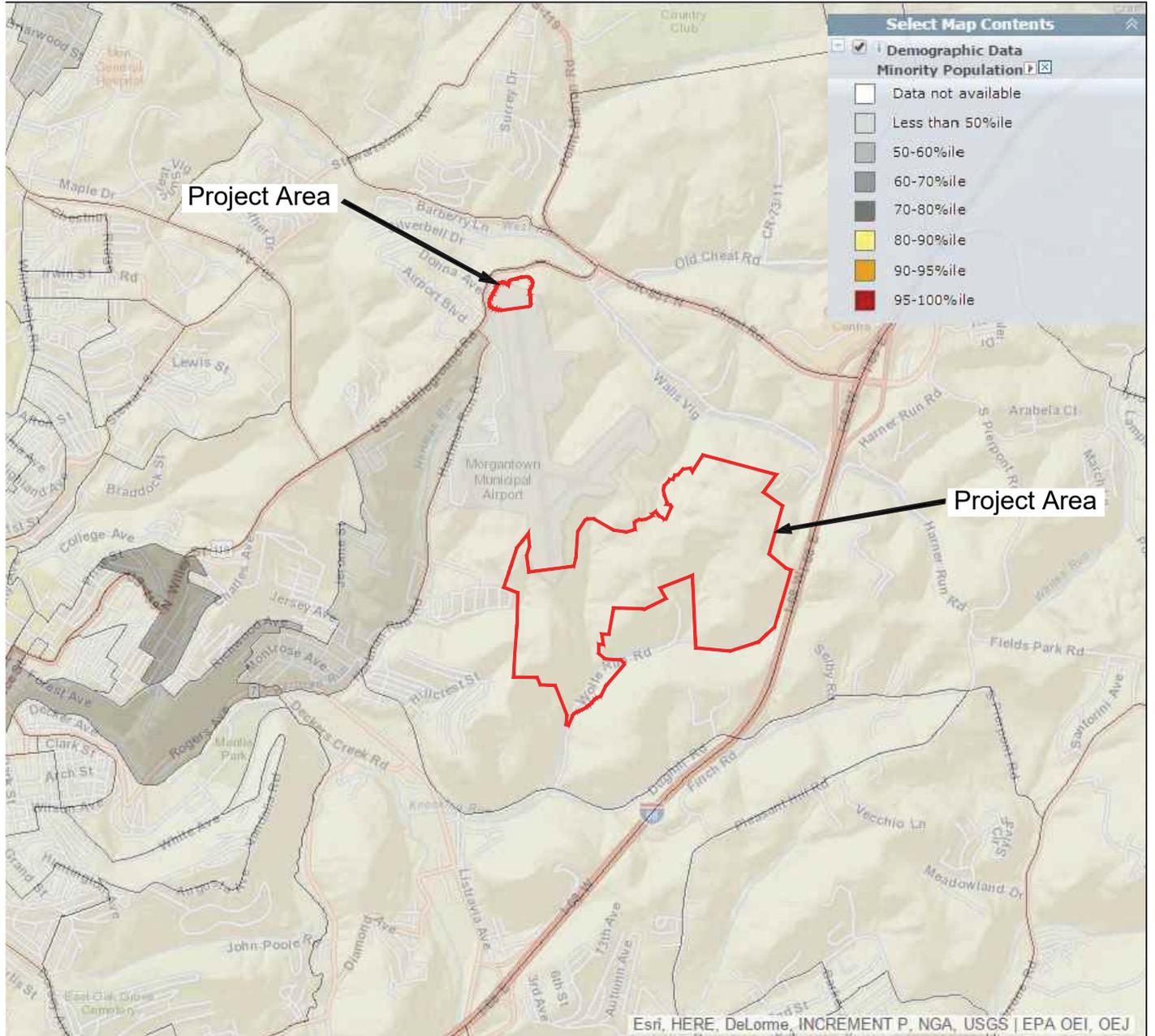
indicates that the overall percentage of children living in Census Tract 108 is approximately 17.6%.

Children are also more sensitive to certain types of impacts that may alter physical development or impact schools or other concentrations of children. Within the project area, there are no places where children congregate (e.g., schools, recreation centers, or daycare centers).



Morgantown Municipal Airport
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Exhibit 3-7
 2010 Census Tract
 Reference Map



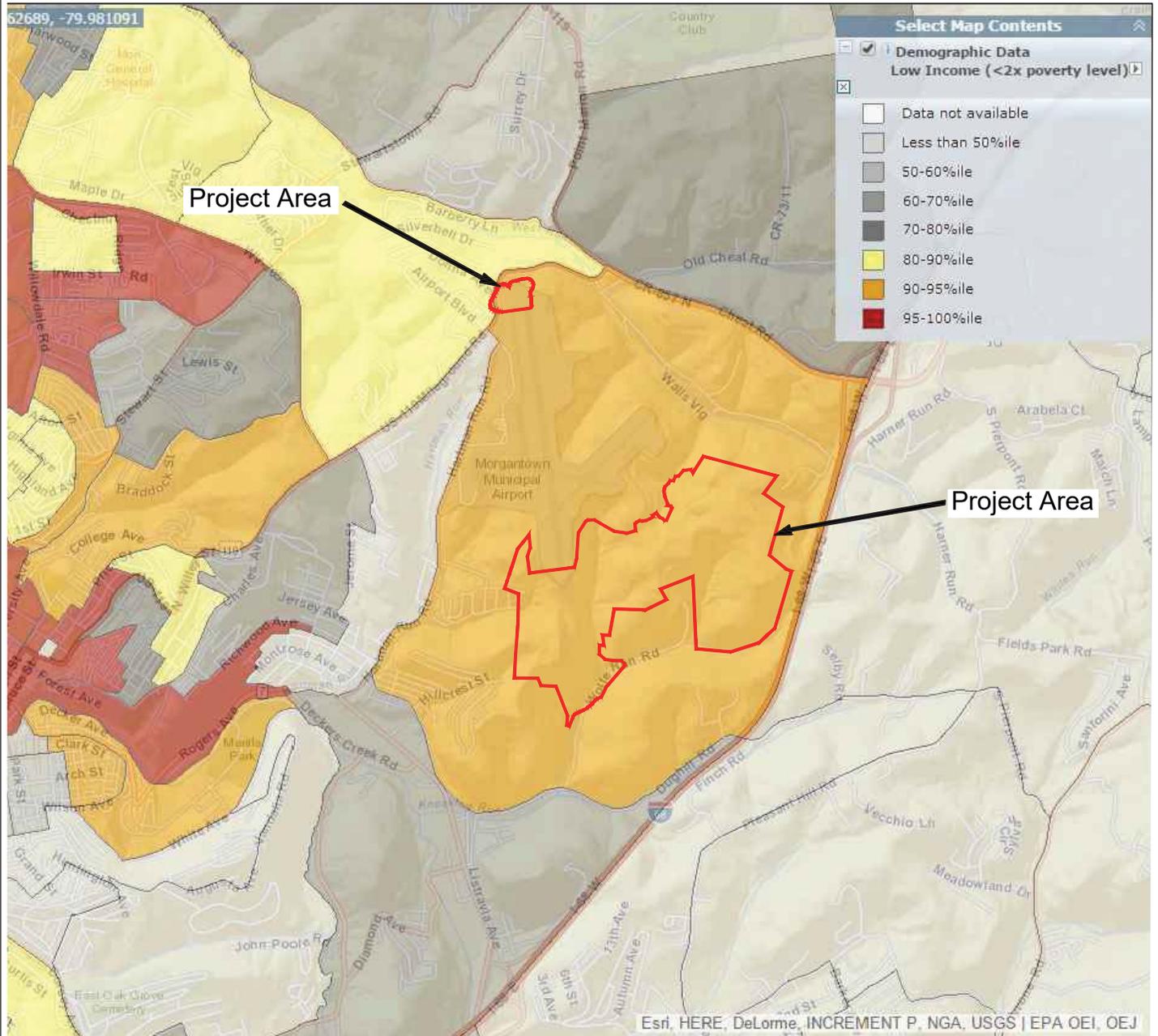


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Exhibit 3-8
Minority Population



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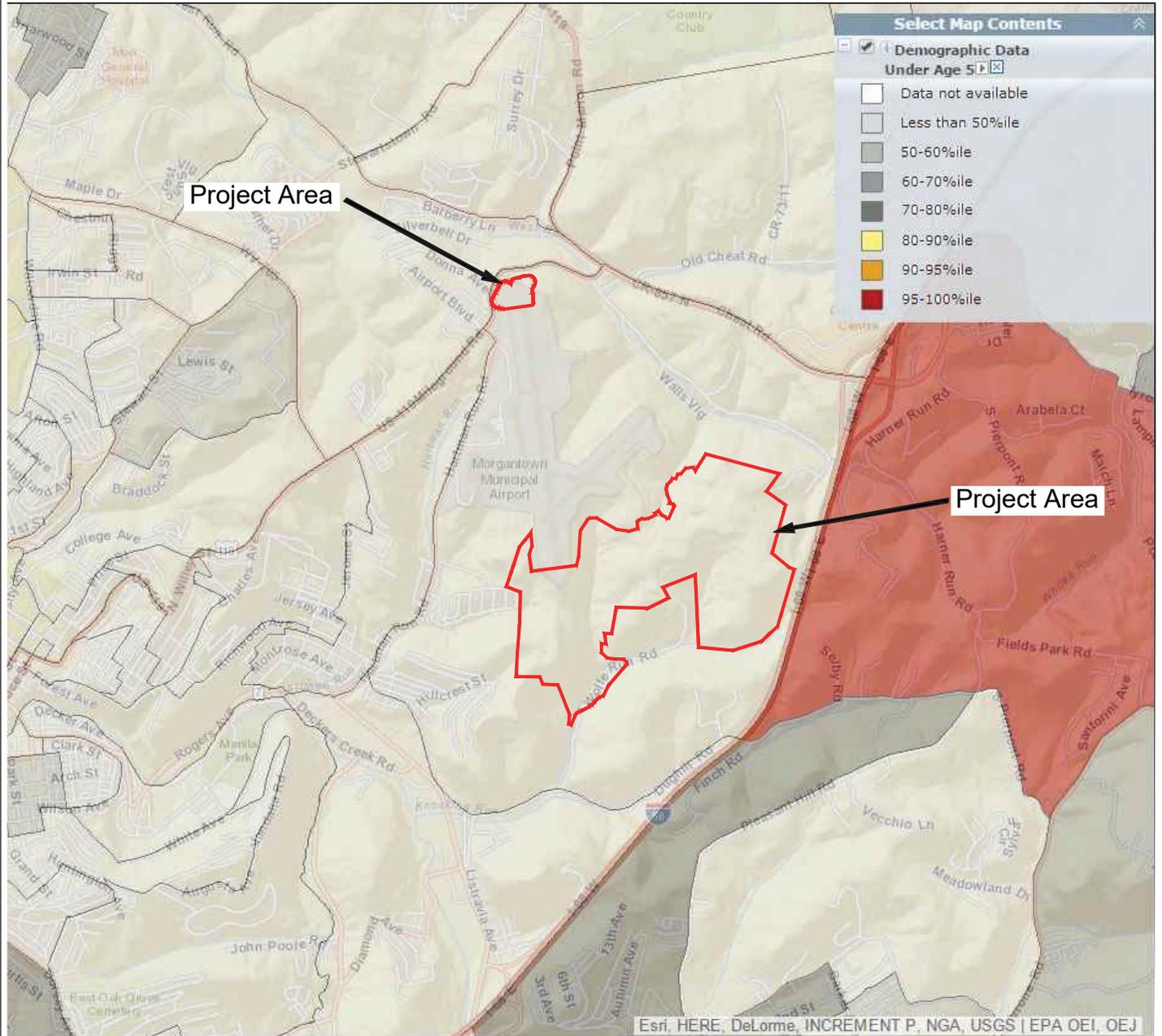


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Exhibit 3-9
Low Income Population



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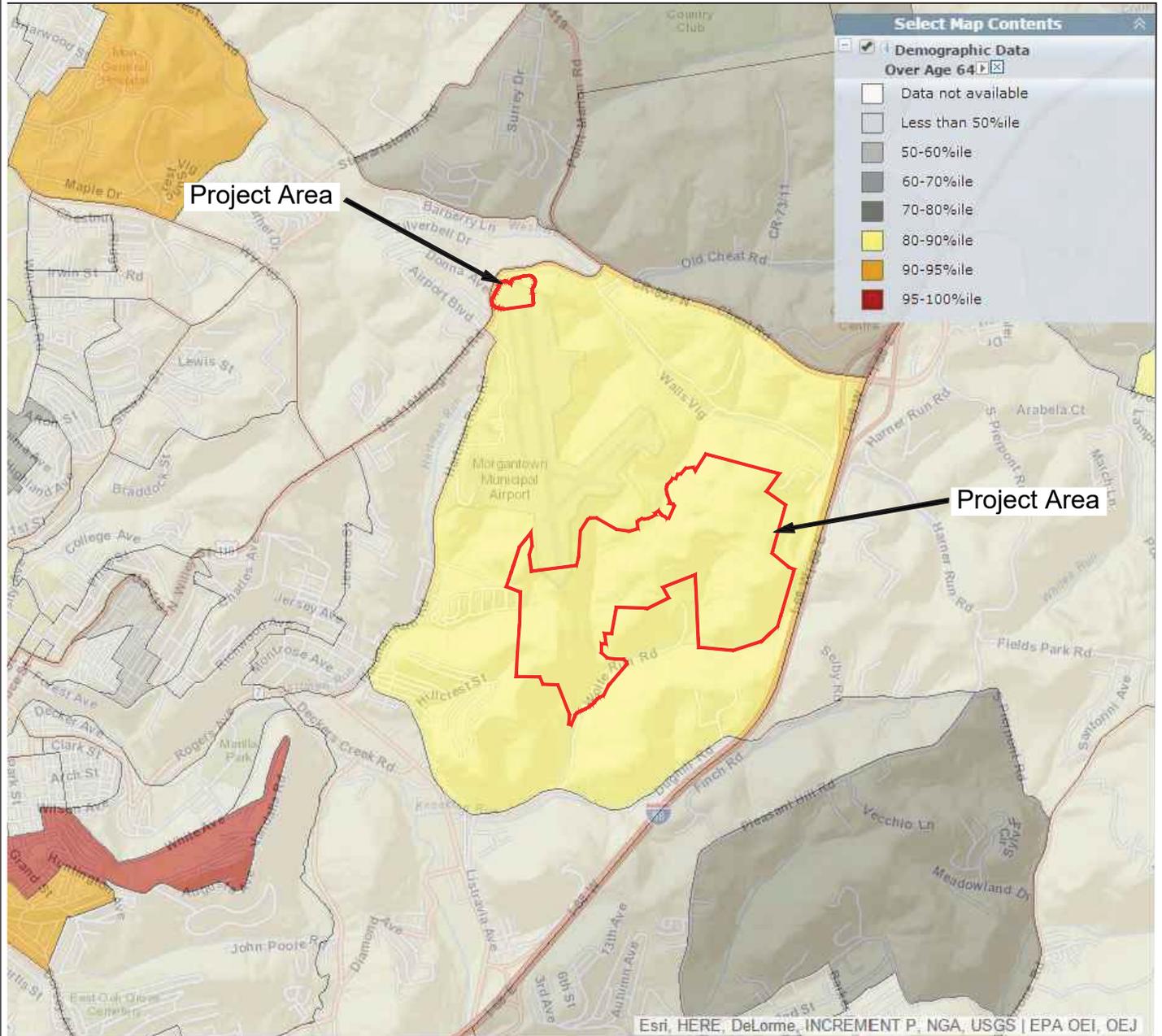


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Exhibit 3-10
Populations Under Age 5



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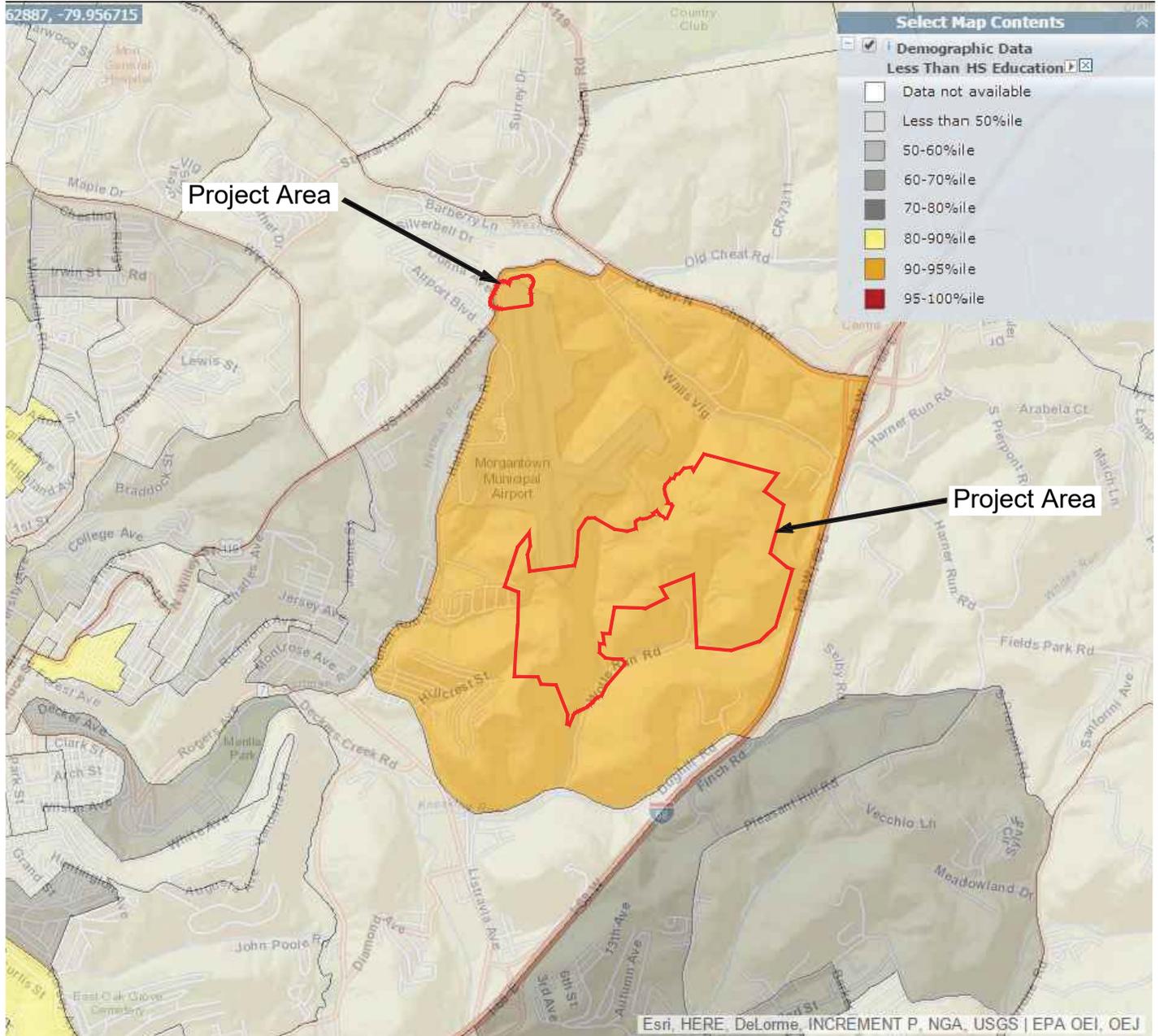


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Exhibit 3-11
Populations Over Age 64



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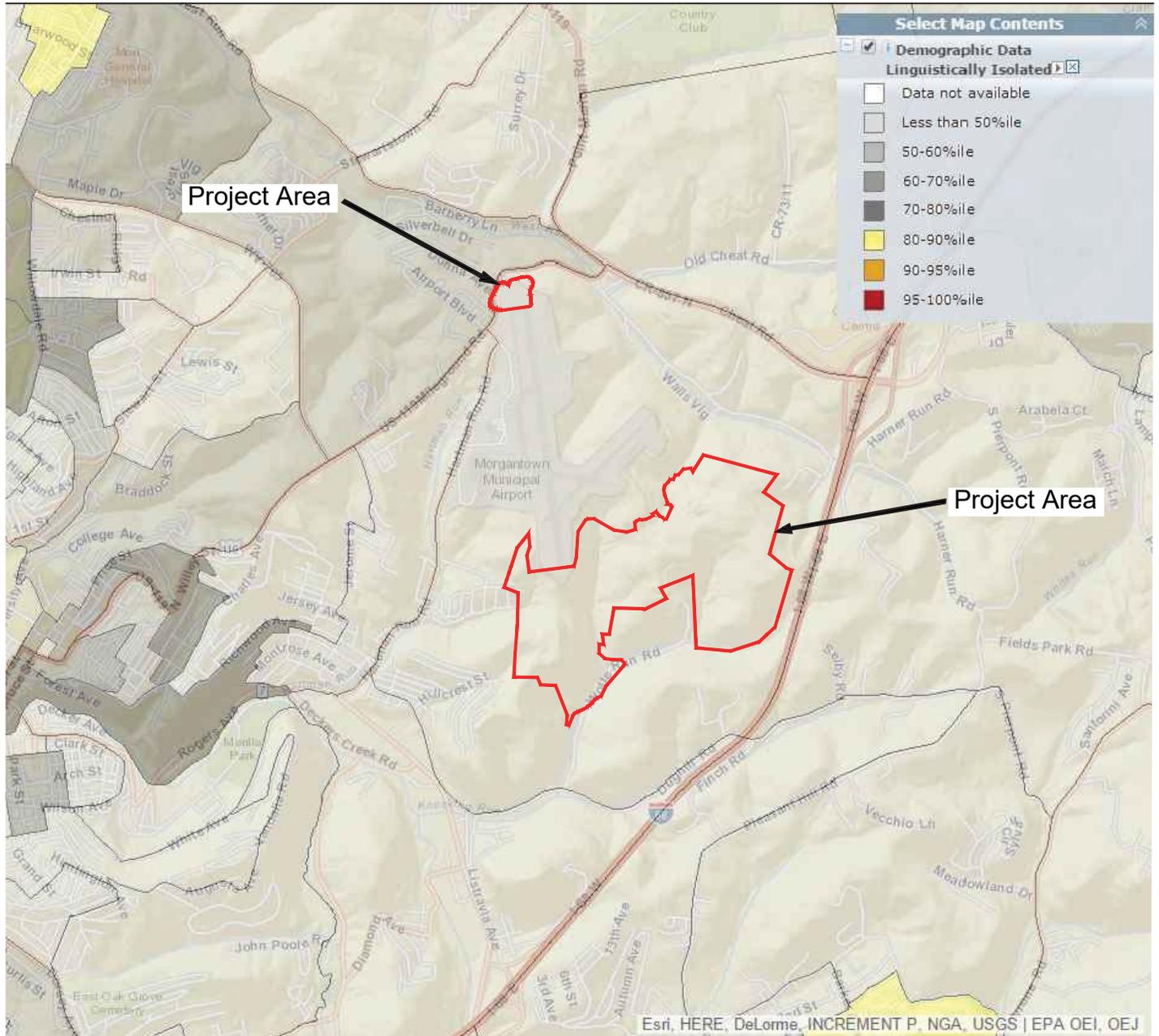


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Exhibit 3-12
**Populations with Less Than
High School Education**



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Exhibit 3-13
Linguistically Isolated
Populations



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3.9 Light Emissions and Visual Impacts

3.9.1 Light Emissions

Light emissions include airport lights, which may extend beyond the airport property and cause impacts upon the surrounding community. MGW currently has existing navigational aids including a rotating beacon and three lighted wind cones. Other navigational aids include:

- High Intensity Runway Lights
- Low Intensity Runway Lights
- MALSR
- VASI
- Runway End Identifier Lights (REILs)

Sources of light emissions surrounding MGW vary greatly from more well-lit areas of commercial and residential use to mostly unlit areas of adjacent forest and rural landscapes. Aircraft operations currently occur at MGW and are visible in the airspace flying at various altitudes. Typical operations include aircraft arrivals, departures and overflights.

All aircraft are required to operate with position lights. Position lights provide safe movement of aircraft and do not produce significant light emissions; however, these lights are often visible from the surrounding area.

3.9.2 Existing Visual Impacts

Visual impacts are identified by examining the visual viewshed of the project area. The visual viewshed, which takes into account the entire landscape, is comprised of two main aspects: views to and views from the Proposed Action and Proposed I-68 Commerce Park site. The existing viewshed of the project area is primarily commercial and residential development and large expanses of forested area. Homes and businesses nearest to MGW are located along Mileground Road and Wolfe Run Road. Most of these properties have views of the rolling topography. Some of these properties have views of airport facilities and direct views of the runway, most notably along Mileground Road and Hartman Run Road.

3.10 Water Resources

3.10.1 Wetlands

The project area has been delineated for “Waters of the United States”, as well as “Waters of the State” (**Exhibit 3-14**). A wetland delineation and stream assessment for the runway extension was conducted in May and October 2015 and July 2016 and the proposed I-68 Commerce Park site delineation was conducted in November and December 2015. Wetlands were delineated using the methods described in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region Version 2.0* (Technical Report EDRC/EL TR-12-9). This supplement is based on the principles of the 1987 Corps of Engineers Wetlands Delineation Manual (Technical Report Y-87-1). All wetlands within the study corridor were classified according to the USFWS *Classification of Wetlands and Deepwater Habitats for the United States* (Cowardin et. al., 1979). The wetland delineations revealed twenty-four wetlands located within the overall project area, totaling 2.534 acres (**Table 3.21**). An additional

wetland delineation was conducted in January 2018 of the northern portion of the project area and did not reveal any wetlands present. Nearly all of the wetlands are relatively small (less than a half-acre) in size. The *Wetlands Delineation and Stream Assessment Report* is included in **Appendix J**.

Table 3.21 • Existing Wetlands

Wetland ID	Cowardin Classification	HGM Classification	Total Delineated Size (SF)	Total Delineated Size (Acre)
Morgantown Airport Runway Extension Wetlands				
W-01	PEM	Riverine	6,675.29	0.153
W-02	PEM	Riverine	1,126.09	0.026
W-03	PEM	Riverine	383.30	0.009
W-04	PEM	Riverine	381.98	0.009
W-05	PEM	Riverine	18,807.18	0.432
W-06	PEM	Riverine	1,288.91	0.030
W-07	PEM	Isolated	447.003	0.010
W-08	PEM	Isolated	1,371.82	0.031
W-09	PEM	Isolated/Slope	561.91	0.013
W-SQS-01	PEM	Riverine	3,671.2	0.084
W-SQS-04	PEM	Riverine	19,765.82	0.454
W-10	PSS	Isolated	1,359.7	0.031
W-11	PEM	Depression	456.9	0.010
W L2 02	PEM/PSS	Slope	3,533.0	0.08
AIRPORT WETLAND SUBTOTAL				1.372
Proposed I-68 Commerce Park Wetlands				
LDG W-07	PEM	Depression	365.6	0.008
LDG W-02	PEM	Depression	158.0	0.004
LDG W-01	PEM	Depression	1,706.2	0.039
LDG W-08	PEM	Slope	10,676.0	0.245
LDG W-04	PEM	Depression	9,553.8	0.219
LDG W-03	PEM	Depression	23,717.2	0.544
LDG W-11	PEM	Depression	237.5	0.005
LDG W-06	PEM	Depression	2,347.3	0.054
LDG W-05	PEM	Depression	360.1	0.008
LDG W-09	PEM	Slope	1,572.5	0.0361
PROPOSED I-68 COMMERCE PARK WETLAND SUBTOTAL				1.1621
TOTAL				2.534

Palustrine emergent (PEM): Wetlands characterized by erect, rooted, non-woody plants

Paulstrine scrub-shrub (PSS): Wetlands areas dominated by woody vegetation less than 20' tall (trees, shrubs or young trees)

3.10.2 Surface Waters

The project area is located within the Outlet Deckers Creek watershed (HUC 050200030202) and the West Run Monongahela River watershed (HUC 050200030309). The project area was delineated for “Waters of the United States”, as well as “Waters of the State”. Twenty-one (21) streams were identified within the project area. An additional delineation was conducted in January 2018 of the northern portion of the project area and did not reveal any surface waters

present. Of these streams, three (3) are classified as perennial, five (5) are classified as intermittent, and thirteen (13) are classified as ephemeral. Streams located within the project area are presented in **Table 3.22** and depicted on **Exhibit 3-14**.

Table 3.22 • Stream Resources

Stream ID	Stream Category	Average Water Width (ft)	Average Water Depth (in)	Average Bank Width (ft)	Average Bank Depth (ft)	Stream Length (ft)
Morgantown Airport Runway Extension Streams						
S-01	Intermittent	2	1	5	0.5	1,883
S-01A	Ephemeral	N/A	N/A	2.5	0.5	51
S-02	Intermittent	2.5	0.5	4	0.75	109
S-03	Intermittent	2.5	0.5	4	0.75	498
S-04	Intermittent	1	0.5	3	0.5	870
Wolfe Run	Perennial	8	4	12	3	1,453
S-SQS-01	Ephemeral	N/A	N/A	2	1	935
S-12	Ephemeral	1	0.5	1.5	0.3	226
S-13	Intermittent	1.75	1	4	0.5	154
S-14	Ephemeral	1.5	0.5	4	0.4	104
S-15	Ephemeral	N/A	N/A	1	3	400
AIRPORT STREAM SUBTOTAL						6,683
Proposed I-68 Commerce Park Streams						
S L2 03A	Ephemeral	N/A	N/A	2	0.5	88
S L2 05	Ephemeral	N/A	N/A	4	1	403
S L2 06	Ephemeral	N/A	N/A	3.5	0.5	562
S L2 07	Ephemeral	N/A	N/A	3	0.5	168
S L2 08	Perennial	N/A	N/A	4	0.5	906
S L2 09	Ephemeral	N/A	N/A	3	0.5	241
S L2 10	Ephemeral	N/A	N/A	3	1	162
S L2 11	Ephemeral	N/A	N/A	4	1	76
S L2 12	Ephemeral	N/A	N/A	3.5	0.5	188
LDG S-01	Perennial	2	1	2	1.5	744
PROPOSED I-68 COMMERCE PARK STREAM SUBTOTAL						3,538
TOTAL						10,221

Under the Clean Water Act (CWA), states are required to record the condition of surface waters in their respective jurisdictions by Section 305(b) and Section 303(d) documentation. The Section 305(b) documentation serves to evaluate the extent to which surface waters are supporting their designated uses for categories such as drinking water supply, aquatic life uses, contact recreation, and fish consumption. The Section 303(d) documentation is a comprehensive list of impaired water bodies that do not support their designated use classifications. WVDEP develops this priority list of water bodies. Both West Run and Outlet Deckers Run are identified as impaired streams and do not meet the state water quality standards.

As identified in the *Proposed Release of Landside Development Area EA*, the West Run watershed has numerous causes of nonpoint source pollution including urban runoff, agricultural runoff, septic systems, and mine seepage. Mining is considered to be the largest nonpoint pollution source with seven miles of West Run and six miles of its tributaries having been impacted by AMD, including tributaries located on Airport property.

3.10.3 Groundwater

The groundwater project area was defined as a 1-mile radius area around the southern extent of Runway 18-36. A radial 1-mile project area was chosen based on topography, geologic conditions, and because a 1-mile radius is a customary search distance typically used in the evaluation of potential environmental impacts to a given area. **Figure 3-15** shows the groundwater project area and area of potential groundwater impact.

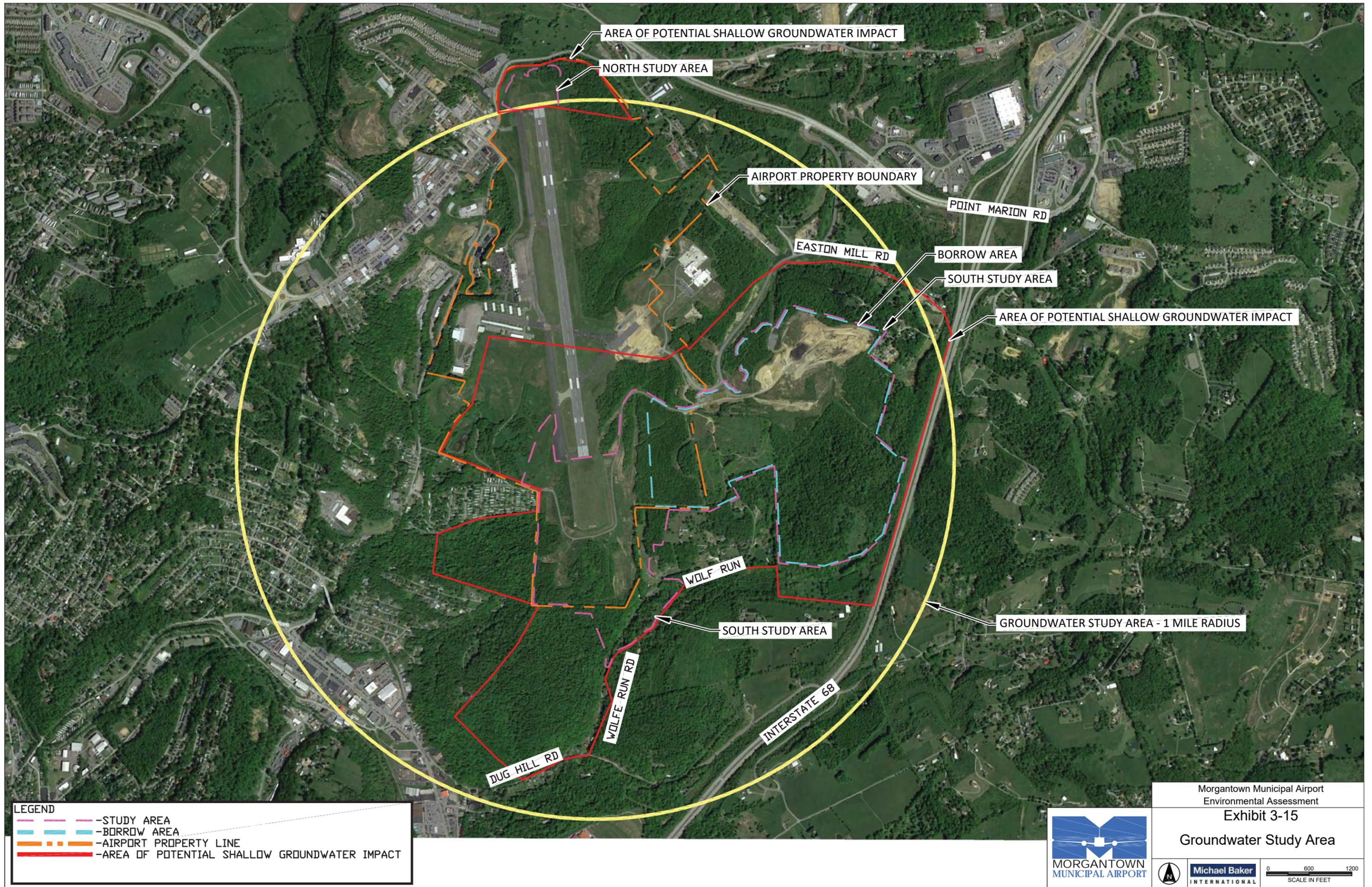
A groundwater survey was conducted within the 1-mile project area which consists of airport property, mixed commercial/residential, and rural/residential to identify potential groundwater impacts. According to the Morgantown Utility Board (MUB), the areas to the southwest, west, northwest, north, and northeast, of the airport runway are served by public drinking water. In addition, property owner interviews revealed that the residential areas along Easton Mill Road, Elm Crest Court, Dug Hill Road, and the southern portion of Wolfe Run Road are served by public drinking water. The residential areas east, southeast, and south of the airport runway have limited access to public drinking water and thus rely on groundwater as their primary drinking water source. Therefore, the groundwater study was focused on the rural/residential areas to the east, southeast, and south of the airport because these areas have the greatest potential to experience direct or indirect impacts to the groundwater due to the runway extension project. The properties included in the groundwater study for the southern portion of the project area are shown on **Figures 3-16** within the Area of Potential Shallow Groundwater Impact. As previously mentioned, the areas north of the northern end of the runway are served by public drinking water. The Area of Potential Shallow Groundwater Impact for the northern portion of the project area is shown on **Figure 3-17**.

According to the 1994 United States Geologic Survey (USGS) Morgantown North Quadrangle, elevations range from approximately 950 feet to 1,240 feet above sea level. Based on the topographic elevations and shallow depth of overburden material, groundwater within the project area flows south-southeast toward Wolfe Run. The project area including Wolfe Run is situated within the Outlet Deckers Creek and the West Run Monongahela River watersheds. Recharge of shallow groundwater occurs in the uplands and wetland areas, while groundwater discharges via hillside springs and within the Wolfe Run stream basin.

A review of the USGS *Groundwater Atlas of the United States*, as published by the USGS in 1997, indicated that the principal deep groundwater aquifer present within the project area is the Upper Pennsylvanian Aquifer, which is a sedimentary rock aquifer. The sedimentary rocks within this

aquifer consist of cyclic sequences of Pennsylvanian Age sandstone, siltstone, non-marine limestone, red and gray shale, and coal found in the Conemaugh and Monongahela Groups. In addition, the 1995 USGS publication entitled, *Location and Site Characteristics of the Ambient Groundwater Quality Monitoring Network in West Virginia*, reports that two groundwater wells located in Monongalia County north of Morgantown were completed to depths of 125 feet and 190 feet within the Pottsville Formation. The Pottsville Formation, which exists below the Conemaugh Group and Allegheny Formation, is part of the Lower Pennsylvanian Aquifer system consisting of gray conglomerate, fine to coarse-grained sandstone, and siltstone and shale containing minable anthracite coals. Based on the EDR Radius Map Report, no private groundwater wells are located within the project area; however, nine USGS wells were identified within the surrounding 1-mile radius. Well depths ranged from 35 feet to 454 feet deep and depth to groundwater was not reported in any of the nine well records.

According to test borings completed south of the southern end of the runway and within the borrow area east of the southern end of the runway, shallow groundwater depths ranged from approximately 5.5 feet to nine feet below ground surface (bgs) within the overburden material, while groundwater depths within the bedrock ranged from approximately 82 feet to 90 feet bgs. The majority of overburden soil was characterized as dry to moist, while bedrock groundwater was only observed in two borings. Groundwater observed at 46.9 feet bgs appeared to be associated with underground coal mine voids.



LEGEND

- -STUDY AREA
- -BORROW AREA
- -AIRPORT PROPERTY LINE
- -AREA OF POTENTIAL SHALLOW GROUNDWATER IMPACT

Morgantown Municipal Airport
Environmental Assessment

Exhibit 3-15

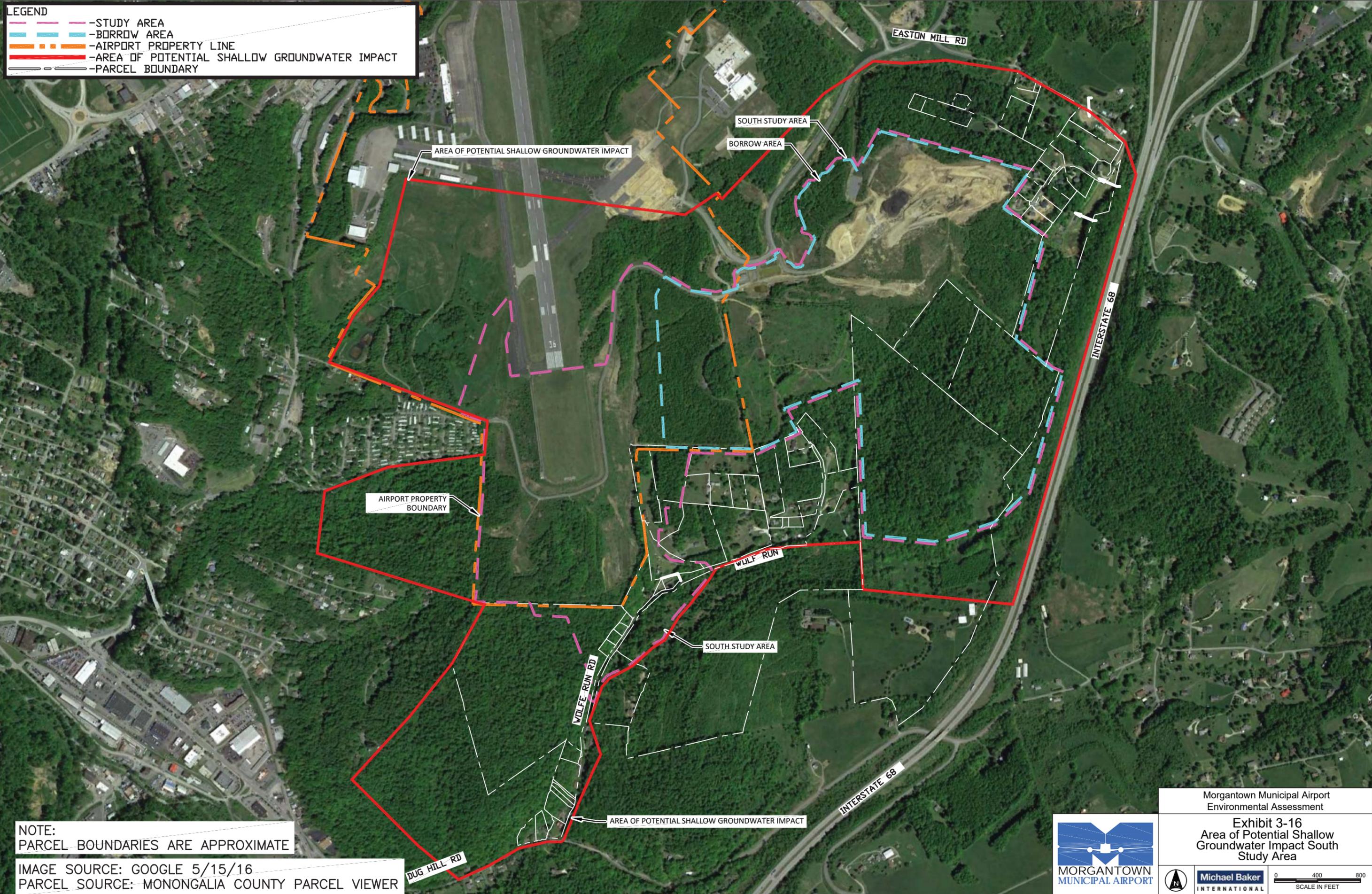
Groundwater Study Area





LEGEND

- -STUDY AREA
- -BORROW AREA
- -AIRPORT PROPERTY LINE
- -AREA OF POTENTIAL SHALLOW GROUNDWATER IMPACT
- -PARCEL BOUNDARY



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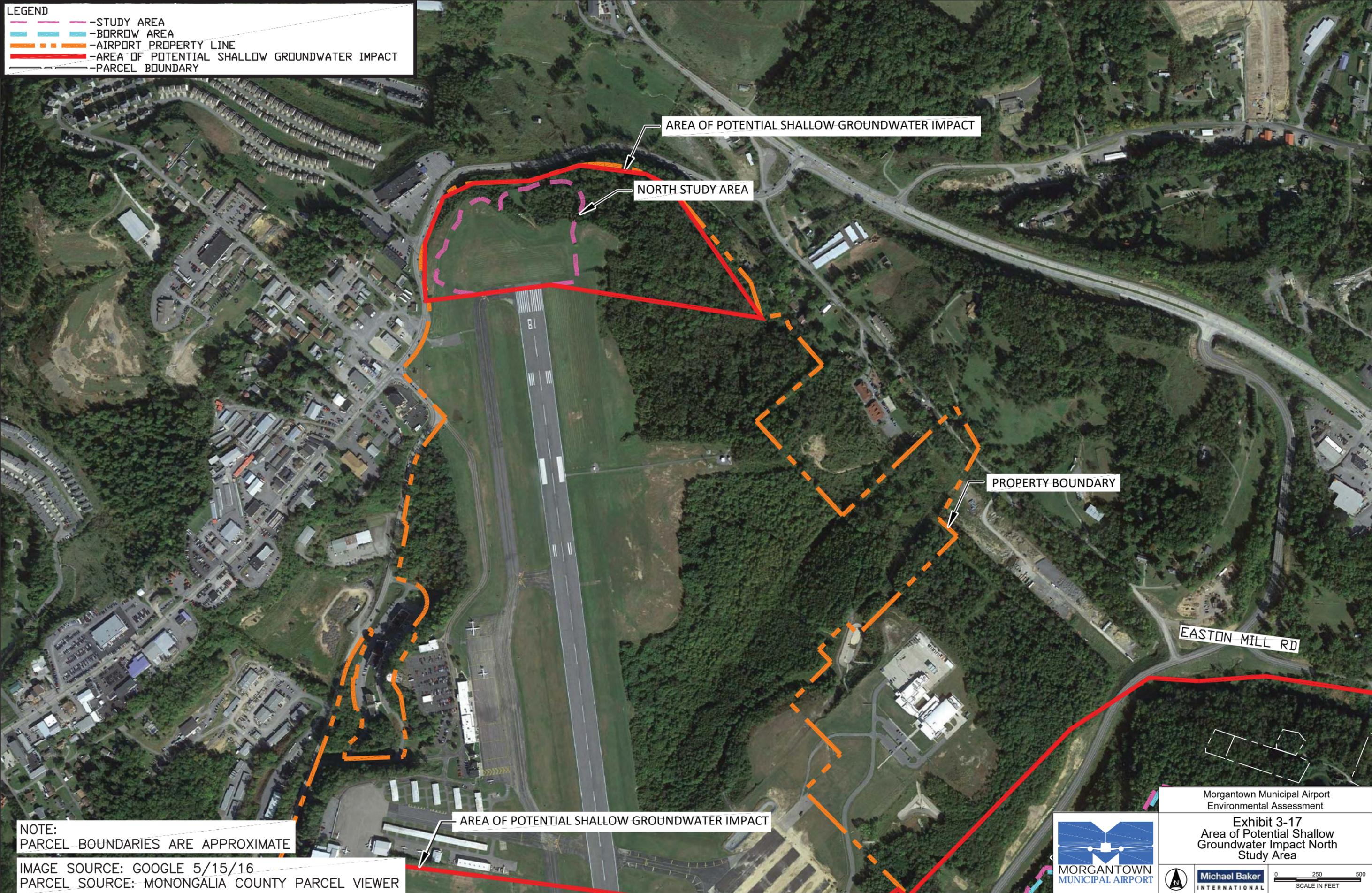
NOTE:
PARCEL BOUNDARIES ARE APPROXIMATE

IMAGE SOURCE: GOOGLE 5/15/16
PARCEL SOURCE: MONONGALIA COUNTY PARCEL VIEWER

Morgantown Municipal Airport Environmental Assessment	
Exhibit 3-16 Area of Potential Shallow Groundwater Impact South Study Area	
 MORGANTOWN MUNICIPAL AIRPORT	 Michael Baker INTERNATIONAL
 SCALE IN FEET	

LEGEND

- -STUDY AREA
- -BORROW AREA
- - - -AIRPORT PROPERTY LINE
- -AREA OF POTENTIAL SHALLOW GROUNDWATER IMPACT
- - - -PARCEL BOUNDARY



AREA OF POTENTIAL SHALLOW GROUNDWATER IMPACT

NORTH STUDY AREA

PROPERTY BOUNDARY

EASTON MILL RD

AREA OF POTENTIAL SHALLOW GROUNDWATER IMPACT

NOTE:
PARCEL BOUNDARIES ARE APPROXIMATE

IMAGE SOURCE: GOOGLE 5/15/16
PARCEL SOURCE: MONONGALIA COUNTY PARCEL VIEWER



Morgantown Municipal Airport
Environmental Assessment

Exhibit 3-17
Area of Potential Shallow
Groundwater Impact North
Study Area

Michael Baker INTERNATIONAL

0 250 500
SCALE IN FEET

4.0 ENVIRONMENTAL CONSEQUENCES AND MITIGATION

This chapter discusses the human, physical, and natural resources that could be affected by the Proposed Action, as well as the No Action Alternative. These resources have been evaluated in accordance with the policies and procedures contained in:

- FAA Order 5050.4B, *NEPA Implementing Instructions for Airport Projects*, revised April 28, 2006;
- FAA Order 1050.1F - *Environmental Impacts: Policies and Procedures Policies and Procedures*, for compliance with NEPA; and
- CEQ regulations 40 CFR parts 1500-1508.

FAA Order 1050.1F describes 22 environmental impact categories and sub-categories that must be considered in NEPA documents. In addition, Exhibit 4-1 of FAA Order 1050.1F lists FAA significance thresholds and factors to consider for each environmental impact category. As previously identified in **Chapter 3.0 (Table 3-1)**, the Proposed Action or the Connected Action (the Proposed I-68 Commerce Park site) would not affect the following resources and therefore not discussed in this chapter:

- Coastal Resources
- Section 4(f) Resources
- Farmlands
- Natural Resources & Energy Supply
- Water Resources: Floodplains and Wild & Scenic Rivers

For each of the remaining categories and sub-categories, the text that follows provides a discussion of the impacts, a summary of FAA's threshold of significance, identifies whether the Proposed Action or the No Action Alternative would meet or exceed the threshold of significance, and identifies mitigation options, if warranted.

4.1 Air Quality

The air quality assessment for MGW was completed following the procedures detailed in FAA's January 2015 guidance³⁷ (**Appendix E**). Morgantown Airport is located in Monongalia County, West Virginia, an area listed on USEPA's Green Book website as attainment for all criteria pollutants. As such, the Conformity Rule of the federal CAA does not apply to the Proposed Action. In accordance with the FAA guidance, an air quality inventory was developed for the Proposed Action and the No Action Alternative. An analysis of the future condition ensures that the Proposed Action meets the air quality criteria 5-10 years after project completion. The air quality analysis uses AEDT 2b Service Pack 2 in the calculation of aircraft operational emissions. Where applicable, inputs used in the noise analysis, also completed using AEDT, were used in

³⁷ Federal Aviation Administration Office of the Environment and Energy. *Aviation Emissions and Air Quality Handbook, Version 3, Update 1*. January 2015.

the air quality analysis to maintain consistency in the reported results. The air quality methodology, analysis, and findings are provided in **Appendix E**, Air Quality Analysis.

The Proposed Action and normal growth activity is expected to increase Air Carrier and Air Taxi operations at MGW. The airport resides in an area in attainment for all criteria pollutants including PM_{2.5}/PM₁₀³⁸. The project does not meet the criteria where a Hazardous Air Pollutants (HAP) inventory would be warranted and one was not prepared. As aircraft operations were analyzed using AEDT, it was a relatively simple effort to generate the HAP emissions for this source.

A construction emissions inventory was calculated for the project using activity data derived from the estimated project duration and construction quantities, summarized in **Table 4.1**.

Table 4.1 • Construction Emissions Summary (in tons)

	Season 2		Season 3		Season 4		Season 5*	
	Earthwork	Coal Removal						
Total Gaseous Hydrocarbons	4.0	0.5	2.5	0.5	2.1	0.5	1.9	0.5
CO	15.7	2.1	9.9	2.1	8.2	2.1	7.3	2.1
NO _x	42.4	3.9	26.0	3.9	21.8	3.9	19.4	3.9
Ammonia (NH ₃)	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
SO ₂	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-Methane Hydrocarbons	3.6	0.4	2.3	0.4	1.9	0.4	1.7	0.4
VOC	4.6	0.5	2.9	0.5	2.4	0.5	2.2	0.5
PM ₁₀	1.8	0.3	1.2	0.3	1.0	0.3	0.9	0.3
PM _{2.5}	1.8	0.3	1.1	0.3	0.9	0.3	0.8	0.3
CO ₂	11,209.5	977.1	6,879.6	977.1	5,772.0	977.1	5,163.6	977.1

* Earthwork in this season includes additional, but not limited to, short term activities such as sub-base, foundations, and markings.

In addition to the earthworks, onroad emissions from vehicles transferring the GOB and coal to the generation facility using the fuel were estimated. Waste coal (GOB) is low-value fuel source and in all likelihood will be sold with the coal onsite, likely making it uneconomical for purchasers to transport the fuel long distances for use. It is reasonable then that these materials would be sold to a nearby power facility no more than 50 miles from the airport. It is assumed that the

³⁸ Air Quality attainment status and history is available on the USEPA Green Book Website: https://www3.epa.gov/airquality/greenbook/anayo_wv.html

materials would be transported by standard dump truck or on-road coal hauler as the short distances involved would make rail transport impractical.

A simple calculation was done to estimate the vehicle miles of travel associated with transporting the coal and GOB to the generation facility. The current understanding is the total amount of coal and GOB to be removed is no more than 168 tons. A typical dump truck hauling coal would max-out by weight instead of volume. A conservative assumption is that each dump truck or coal hauler would be able to carry 22-26 tons of materials requiring a total of 7-8 round trips. Assuming the transfer vehicle would deliver the material and then return empty, a round trip would be a distance of 100 miles for a total of 800 vehicle miles of travel (VMT) to haul the coal and GOB to its final destination.

Emission rates for the vehicles were developed using EPA’s MOVES2014a model run for Monongalia county using MOVES national default data and parameters. Dump trucks and coal haulers are classified as either single-unit short-haul trucks (identified in MOVES as source type 52) or as combination short-haul trucks (identified in MOVES as source type 61.)³⁹ MOVES was run in inventory mode, the emission rates developed summarized in **Table 4.2**. Since the specific type of vehicle to be used to transport the materials is unknown, the higher of the two emission rates for each pollutant was used, and total emissions to transport the coal and GOB is shown in **Table 4.3**. The total emissions associated with the transfer of the Coal/GOB to the generation facility is a small fraction of the emissions from the earthworks associated with the project. The MOVES input and output files can be made available on request.

The results of the air quality analysis indicate there will be no adverse impacts as a result of the Proposed Action or the No Action Alternative. While general conformity is not applicable to this project, emissions are below the *de minimis* levels for general conformity for both operations and construction emissions.

Table 4.2: MOVES Emissions Rates for Dump Trucks/Coal Hauler

MOVES Source Type	MOVES Source TypeID	Emission Rates (grams/mile)					
		VOC	NO _x	CO	SO ₂	PM _{2.5}	CO _{2e}
Single Unit Short-haul Trucks	52	0.47	1.67	5.94	0.008	0.08	1,007.51
Combination Short-haul Trucks	61	0.23	3.76	1.14	0.015	0.15	1,724.27
Maximum Rate	-	0.47	3.76	5.94	0.015	0.15	1,724.27

³⁹ The mapping of dump trucks to MOVES source types 52 and 61 was provided in the EPA presentation Using Vehicle Telematics for MOVES Activity Input by David Brzezinski (EPA), Carl Fulper (EPA) and Aman Verma (ORISE Participant*) given August 16, 2017 International Emission Inventory Conference. <https://www.epa.gov/sites/production/files/2017-10/documents/brzezinski.pdf>

Table 4.3: Estimated Emissions from Vehicles used to Transfer Coal/GOB to Final Facility

Pollutant	Emission Rates (g/mi)	Total Emissions – 800 Miles of Travel Total (kg)
VOC	0.47	0.38
NO _x	3.76	3.01
CO	5.94	4.75
SO ₂	0.015	0.0116
PM _{2.5}	0.15	0.12
CO _{2e}	1,724.27	1,379.42

Emissions from Coal/GOB Extraction

Under the Proposed Action, the abandoned coal seam and associated waste coal (GOB) material present at the site will be removed and any useable coal will be sold; it is assumed that the highest amount of quality coal would be available for burning equating to approximately 163,881.9 tons of coal/GOB excavated and processed (burned)⁴⁰. This can be compared to the amount of coal produced in West Virginia in 2017 of 92.8 million tons⁴¹. The amount of useable coal that will be available resulting from this project compared to the overall coal production in the state of West Virginia is relatively minor, constituting well below 1% of the coal extracted in West Virginia in 2017.

Emissions of criteria pollutants (particularly Sulfur Dioxide, Particulate Matter, Nitrogen Dioxide, and Lead) would result from coal combustion of the useable coal. The amount and type of coal consumed, design of combustion equipment, and application of emission control technologies have a direct bearing on emissions from coal-fired combustion equipment and therefore emissions were not quantified. However, readily available data from the Fort Martin Power Station (located approximately 11 miles north of MGW in the town of Madsville) was evaluated for the purposes of providing a representative estimate⁴² of the amount of emissions that may result from the coal/GOB excavated.

At this time it is unknown exactly how much coal will be extracted and when or where the coal will be burned (the total amount of coal extracted is not expected to exceed 163,881.9 tons). The FAA

⁴⁰ Approximately 14,000-18,000 tons of the useable coal has already been extracted for test burns. See Section 4.4.2 for additional details.

⁴¹ <https://www.eia.gov/tools/faqs/faq.php?id=69&t=2>

⁴² For comparison purposes only; exact location of coal/GOB will be determined during the design phase of the project.

also has no ability to exercise continuing responsibility over the coal once it is extracted. However, as required by the Clean Air Act, it is reasonable to assume the coal will ultimately be burned from power plant(s) that must monitor emissions pursuant to a Title V operating permit and utilize pollution controls if they were ever subject to the New Source Review permitting program. Moreover, if coal is burned in a State that is in non-attainment or maintenance for any of the NAAQS, emissions from the power plant will be accounted for in the state's SIP. For these reasons, the emissions from the eventual burning of the coal do not require a conformity determination. It also bears noting that the approximately 163,881.9 tons of coal/GOB available for burning is very small relative to the 92.8 million tons of coal that were extracted from West Virginia in 2017.

4.1.1 Significance Determination

FAA's significance threshold for air quality states the action would cause pollutant concentrations to exceed one or more of the NAAQS, as established by EPA under the CAA, for any of the time periods analyzed, or to increase the frequency or severity of any such existing violations.

Based on the air quality analysis findings, neither the Proposed Action (including the Proposed I-68 Commerce Park) nor the No Action Alternative would result in a significant impact to air quality nor would either exceed any NAAQS standards set by the EPA.

4.1.2 Mitigation

Mitigation of air quality impacts is not required and further analysis is not necessary. Although the Proposed Action would not significantly affect air quality, the Proposed Action could include BMPs to reduce construction-related emissions to the highest level practicable. FAA AC 150/5370-10G, *Standards for Specifying Construction of Airports* (Temporary Air and Water Pollution, Soil Erosion, and Siltation Control) identifies BMPs to minimize air quality impacts during construction.

4.2 Biological Resources

4.2.1 Terrestrial Habitat

The Proposed Action and Proposed I-68 Commerce Park site would result in approximately 178 acres of tree clearing. Over 700 acres of adjacent non-impacted forested tracts of land are within a 2-mile radius of the proposed tree clearing. Due to previous land uses, tree clearing would occur to areas containing smaller diameter trees throughout the project area or forested areas of mature but common native species including tulip poplar, beech, black cherry, white oak, etc. and sparse herbaceous ground cover. Therefore, removal of existing trees would consist mostly within habitat types and the species that inhabit it relatively common to this region of West Virginia. However, native flora and fauna species within tree removal areas would experience short term disturbance from the Proposed Action and Proposed I-68 Commerce Park site. Slow-moving, immobile and denning or nesting wildlife could experience reproductive impacts and/or mortality. Any species dependent upon the specific trees removed could also be negatively impacted. To

minimize impacts, the fewest amount of trees necessary are proposed to be removed. Furthermore, tree removal will take place within or near large parcels of forest and wildlife would have alternate tree sites available. Efforts to minimize tree removal, especially off-airport property, will continue throughout the design phase of the project.

4.2.2 Indiana Bat and Northern Long-eared Bat (NLEB)

Coordination with the WV DNR and USFWS was conducted. No rare, threatened, or endangered species/sensitive habitats were identified by the WV DNR. USFWS identified the potential for two federally-listed species to occur in the project area. These are the endangered Indiana bat (*Myotis sodalis*) and the threatened northern long-eared bat (NLEB) (*M.septentrionalis*). Approximately 178 of forested habitat would be impacted by the Proposed Action and Proposed I-68 Commerce Park site⁴³. Therefore, project-specific surveys and avoidance measures were developed for this project. USFWS provided two options to avoid incidental take of the Indiana bat and NLEB: 1) Option 1 assume the presence of these bats and develop a conservation plan to avoid and minimize impacts, including a detailed, on-site habitat assessment of summer foraging and roosting habitat that will be cleared by the project; and 2) Option 2 conduct surveys to determine if the summer foraging and roosting habitats within the project area are occupied by either species of bats. Option 1 was selected for this project and a combined Habitat Assessment and Conservation Plan was submitted to the USFWS on September 9, 2016. No known habitat is present on the northern section of the runway (Runway 18). See **Appendix B** for Agency Coordination and **Appendix L** for complete results from the Habitat Assessments and Bat Conservation Plans.

As the project progressed in the planning phase, an additional study was necessary as part of the Connected Action of the Proposed I-68 Commerce Park site. The additional study is referred to as the "Laurita Parcel." Since separate Habitat Assessments/Conservation Plans were submitted to the USFWS for review, impacts are discussed separately below. Impacted individual trees include: white oak, shagbark hickory, red maple, sassafras, sugar maple, slippery elm, American elm, black locust, green ash, tulip poplar, and dead snags. **Table 4.4** summarizes the impacts to surveyed roost trees resulting from the Proposed Action and both evaluations conducted for the Proposed I-68 Commerce Park site. Additional studies were also conducted in the northern end of the runway; however, no habitat was present within this portion of the project area.

⁴³ According to the conservation plans developed, the Proposed Action would result in approximately 49 acres of forested impact, and the Proposed I-68 Commerce Park site would impact 154 acres for a total of 203 acres. Further refinement of the project through the design process has resulted in the total forested habitat impact of 178 acres.

Table 4.4 • Summary of Bat Habitat Impacts

Location	# Potential Indiana Bat Primary Roost Trees within Clearing Limits		# Potential Indiana Bat Secondary or NLEB Primary Roost Trees within Clearing Limits		Total
	Total Within Clearing Limits:		Total Within Clearing Limits:		
<i>No Action</i>	Total Within Clearing Limits:	0	Total Within Clearing Limits:	0	0
	Total Avoided:	N/A	Total Avoided:	N/A	N/A
<i>Proposed Action:</i> Runway Extension (North* & South Ends)	Total Within Clearing Limits:	5	Total Within Clearing Limits:	13	18
	Total Avoided:	2	Total Avoided:	1	3
Location	# Potential Indiana Bat Primary Roost Trees within Clearing Limits		# Potential Indiana Bat Secondary or NLEB Primary Roost Trees within Clearing Limits		Total
	Total Within Clearing Limits:		Total Within Clearing Limits:		
<i>Connected Action:</i> 1. Proposed I-68 Commerce Park	Total Within Clearing Limits:	10	Total Within Clearing Limits:	16	26
	Total Avoided:	0	Total Avoided:	0	0
2. Laurita Parcel	Total Within Clearing Limits:	19	Total Within Clearing Limits:	61	80
	Total Avoided:	0	Total Avoided:	0	0

* No habitat present in the northern end of runway (Runway 18)

Primary roosting trees range from 6-53 inches DBH and impacted secondary roosting trees range from 6-52 inches DBH.

Cave/mine portal access was observed in various locations for the Proposed I-68 Commerce Park site, the Laurita Parcel, and the Proposed Action. However, none of them were identified as suitable winter hibernacula. Therefore, no impacts to winter hibernacula are anticipated.

West Virginia is not a coastal state; therefore, neither the Marine Mammal Protection Act nor the Magnuson-Stevens Fishery Conservation and Management Act are applicable to the project.

The No Action Alternative would not impact protected species or habitat.

4.2.3 Significance Determination

The FAA has not established a significance threshold for non-listed species. However, FAA's significance threshold takes into consideration the potential for the alternative or action to:

- Have a long-term or permanent loss of unlisted plant or wildlife;
- Have an adverse impact to special status species or their habitats; and/or
- Result in a substantial loss, reduction, degradation, disturbance, or fragmentation of native species' habitats or their populations; or adverse impacts on a species' reproductive success rates, natural mortality rates, non-natural or ability to sustain the minimum population levels required for population maintenance.

Forested tracts and larger trees will be avoided, where appropriate and feasible. Best management practices will be implemented to ensure prevention of soil erosion, compaction, and sedimentation of streams. Pollution plans will be in place to protect soils, wetlands, and waterways.

In addition, a significant impact to biological resources occur when: USFWS or the National Marine Fisheries Service determines that the action would be likely to jeopardize the continued existence of a Federally-listed threatened or endangered species, or would result in the destruction or adverse modification of federally-designated critical habitat.

Due to the nature of the Proposed Action and proposed I-68 Commerce Park site, the avoidance measures incorporated into project designs and the relatively low population densities of bat that are likely within the overall area, the risk that individual bats or colonies of bats will be directly impacted by the project is extremely low. While the potential exists for indirect impacts to occur to the species in the form of loss of potential habitat, the amount of forested habitat remaining within a 2-mile buffer surrounding the LOD and the mitigation measures to be implemented during construction will limit potential negative effects on listed bats. By using USFWS-approved mitigation ratios, any potential roosting habitat lost will be offset by the habitat created to replace it. No caves or mines (i.e., swarming habitat) considered to have suitable habitat will be directly impacted.

In summary, the following measures will be implemented:

- Where possible, forested impacts will be avoided.
- Mitigation will be provided on-site and off-site with BrandenBark™ (or equivalent) roost structures at a 1:1 ratio for each potential primary roost tree lost.
- Artificial roosts will be monitored for two years following installation.
- No hibernacula will be impacted.
- BMPs will minimize overall habitat impacts and to protect water quality by implementing approved erosion, sedimentation, and pollution controls during construction.
- Avoiding potential roost trees and impacts in riparian areas by reducing the size of the LOD.
- Girdling trees on a 1:1 ratio for each potential roost tree lost at I-68 Commerce and Laurita Parcel.
- Seasonal tree clearing restrictions between November 15 and March 31 for all trees greater than five (5) inches DBH.

Concurrence was requested on September 9, 2016 that the design and implementation of a BCP for the Proposed Action and Proposed I-68 Commerce Park site will successfully avoid potential adverse effects on Indiana bats and NLEB, and would preclude the need for take exemption or authorization under the Endangered Species Act (ESA). On November 9, 2016 and March 15, 2018 the USFWS concurred that the Service does not anticipate that this project is likely to adversely affect the Indiana bat (**Appendix B**). Mitigation measures are described in **Section 4.2.4** below.

Based on the information provided, the USFWS determined that:

“..the NLEB may be affected by the proposed construction and operation of this project. Any take of NLEB occurring in conjunction with these activities that complies with the conservation measures (as outlined in the 4(d) rule), as necessary, is exempted from section 9 prohibitions by the 4(d) rule and does not require site specific incidental take authorization. Note that the 4(d) rule does not exempt take that may occur as a result of adverse effects to hibernacula and that no conservation measures are required as part of the 4(d) unless the proposed project (1) involves tree removal within 0.25 miles of known NLEB hibernacula; or (2) cuts or destroys known, occupied maternity roost trees or any other trees within a 150-foot radius around known, occupied maternity tree during the pup season (June 1 to July 31). This proposed project is not located within any of these radii around known hibernacula or roost trees and will not affect any known NLEB hibernacula, therefore any take of NLEB associated with this project is exempted under the 4(d) rule and no conservation measures are required.”

Based on the findings listed above as well as the proposed mitigation efforts described in Section 4.2.4, no significant impacts to biological resources would result from the Proposed Action and Proposed I-68 Commerce Park site.

4.2.4 Mitigation

On-Site

To improve existing bat habitat on-site for the Proposed Action, installation of eight (8) artificial roost structures will be completed in a manner as to not create a wildlife hazard for MGW. In order to mitigate for the lost potential Indiana bat roosts, BrandenBark™ (or equivalent) structures are proposed to provide instant bat roosting habitat. Artificial roosts will be located in suitable areas that currently lack adequate roosting habitat (e.g. cleared areas or areas with smaller diameter trees). The location of these structures will be chosen by a qualified biologist, and the artificial structures will be monitored for two (2) years. Qualified biologists will check the structures for signs of bat use and will communicate findings to the USFWS immediately upon completion of monitoring with a written report submitted by early September of each year of the monitoring period. The artificial structures will mitigate the existing conditions at the site for potential bat populations; therefore, no additional habitat or wildlife hazard will be created.

Off-Site

In addition, bat habitat for the I-68 Commerce Park and the Laurita Parcel would be improved at an off-site location at the Fort Martin mitigation site. Mitigation at this location would involve combination of selective girdling of existing trees as well as the installation of 24 artificial roost structures. In order to mitigate for the lost potential Indiana bat roosts, BrandenBark™ (or equivalent) structures would provide instant bat roosting habitat and as mitigation for lost potential primary roost trees. Additional bat boxes will be erected to offset the impacts to alternate roosts. Artificial roosts will be located in suitable areas that currently lack adequate roosting habitat (e.g. cleared areas or areas with smaller diameter trees). Selective girdling of trees will take place where suitable trees can be found; trees chosen for girdling will offer equivalent to superior roost potential for resident bats to those lost during project construction. Additionally, 10 trees each of green ash (*Fraxinus pennsylvanica*) and shellbark hickory (*Carya laciniosa*) will be planted. The

location of these structures will be chosen by a qualified biologist, and the artificial structures will be monitored for two (2) years. Qualified biologists will check the structures for signs of bat use and will communicate findings to the USFWS immediately upon completion of monitoring, with a written report submitted by early September of each year of the monitoring period.

4.3 Climate

4.3.1 Greenhouse Gas (GHG)

In accordance with FAA Order 1050.1F, a GHG emissions evaluation for a NEPA review considers the potential incremental change in CO₂ emissions that would result from the Proposed Action compared to the No Action Alternative for the same timeframe. The CO₂ emissions inventory is documented in the *Climate Analysis Technical Memo* and provided in **Appendix F**. The GHG emissions inventory considered the following factors related to airport activity:

- Aircraft operations, ground equipment, and auxiliary power units
- Ground access vehicles
- Stationary sources
- Ground equipment
- Electricity
- Waste management
- Refrigerant usage

The results of the GHG emission inventory are summarized as follows. The incremental impact of the proposed action on GHG emissions is the result in an increase Air Carrier and Air Taxi operations at MGW. The inventory focused on the Airport itself and serves as a worst-case analysis. Accommodation of flights would have otherwise been serviced or based at more distant airports may result in a reduction of fuel use regionally both for aircraft and associated vehicle travel to and from the airport. While improved runway conditions at MGW may in and of itself stimulate new traffic, it is not evident the extent this will occur and it is anticipated that the majority of the increase in aircraft activity will be due to relocated aircraft. In part, the flights from other airports are likely at locations further from travelers intended destinations to the Morgantown area. The Proposed Action will enable these flights to more efficiently reach intended destinations without requiring secondary transportation such as vehicular transportation. As a result, the Proposed Action, in all likelihood, would have no significant impact on a global scale and may actually reduce GHG emissions compared to the No Action Alternative.

4.3.2 Burning of Coal Deposits

Under the No Action Alternative, MCDA would re-evaluate the feasibility of removal and/or evaluate other options (e.g., grouting the mine). Should MCDA determine that coal removal was not feasible (under the No Action Alternative), there would be no net impact on GHG emissions resulting from coal burning. If coal removal was feasible, the impact on GHG emissions would be the same as described below as part of the Proposed Action.

Under the Proposed Action, the abandoned coal seam and associated waste coal (GOB) material present at the site will be removed⁴⁴. The coal seam is not only a source of AMD within the project area, but also causes structural issues such as subsidence for the land being developed for the MCDA’s I-68 Commerce Park. The process to remove the coal/GOB is to first remove the overburden material and stockpile it for later use by the Airport for the runway extension. While sorting, the rock, soil, clay and shale is removed from the coal and GOB and stockpiled separately from the coal and GOB (Refer to **Exhibit 1-3** for locations of stockpiles). **Table 4.5** lists potential processing plants and distances to the project area.

Table 4.5 • Nearby Processing Plants

Facility	Location
Key Con Fuels	Conemaugh Power Station (82 miles)
Mepco River Terminal	Maidsville, West Virginia (20 miles)
Lehigh Cement	Union Bridge, Maryland (184 miles)
AMBIT	Grant Town, West Virginia (31 miles)

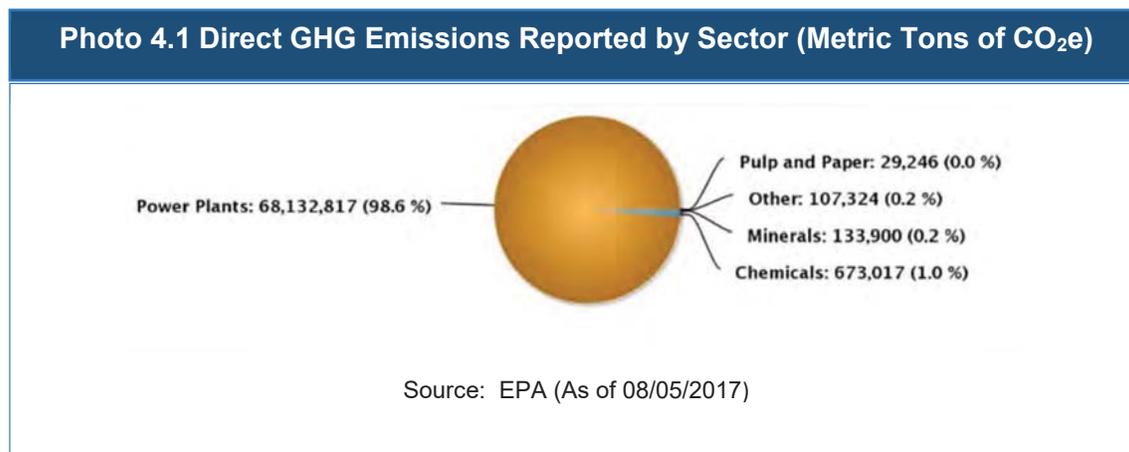
Any proceeds from the sale of useable coal (both on and off airport property) will be at Fair Market Value in accordance with agreements that will be authorized during the design phase of the project. All royalties from the sale of coal on and off airport property will be at Fair Market Value and will be restricted solely to airport use. Two agreements are anticipated: a coal lease between the City of Morgantown and the MCDA, and an agreement between the MCDA and a third party for the removal of the coal and GOB. These agreements will be in addition to any and all necessary licenses and permits required. The Coal lease agreement with the City of Morgantown will provide for a royalty payment from the coal removal contractor and that royalty will be at fair market value. The risk associated with the removal of the coal will be absorbed by the coal removal contractor with the City of Morgantown receiving a net royalty with no associated cost or exposure.

For inventory purposes, GHG emissions were calculated using estimates of the total coal estimated within the project area. As stated previously, it is uncertain how much of the remaining coal will be suitable due to its poor quality. The amount, if any, of suitable coal for burning is not known. However, for the purposes of this assessment it was assumed that the highest amount of quality coal would be available for burning to establish a worst-case scenario in terms of GHG emissions. Using this approach, it was assumed that approximately 233,450 cubic yards of coal/GOB will be excavated and processed (burned).⁴⁵ This estimate was provided by consultants for the proposed purchaser of the material.

⁴⁴ A portion of the coal/GOB material has been previously removed for test burns (Refer to Section 4.4.2 for additional information regarding the test burn). The removal was coordinated with the DEP and the receiving terminal and conducted in accordance with the WV DEP directions for the removal. Although these test burns were already completed, they are considered part of the Proposed Action and included in the overall impact of the coal/GOB removal on greenhouse gas emissions.

⁴⁵ Information provided by one of potential purchasers/processors of the coal/GOB. December 2015.

An online tool⁴⁶ was used to convert the volume estimate for the coal deposit to a weight. The tool estimated the deposit to consist of 163,881.9 tons of coal⁴⁷. The energy content of coal (expressed as British Thermal Units (BTUs) per short ton (2,000 pounds)) varies widely; however, the average value for coal is 19,210,000 BTU per short ton, as reported by the U.S. Energy Information Administration.⁴⁸ The same site reports that the average emission rate for bituminous coal mined in West Virginia is 207.1 pounds CO₂/Million BTU. Using the above relationships, the total CO₂ emissions associated with the burning of the coal is estimated to be 325,993 tons or 295,736 Metric Tons. The amount of generated CO₂ from the burning of coal was compared to the overall emission rates from direct GHG emissions in the state of West Virginia. According to the U.S. Department of Energy, the state of West Virginia is the second largest state producing coal in the country (As of December 2018).⁴⁹ In fact, there are three coal-fired power plants within a ten-mile radius of the city, with one, the Morgantown Energy Associates facility, located within city limits (USEPA, 2009)⁵⁰. Furthermore, EPA reports that approximately 68 million metric tons of CO₂e emissions in West Virginia result from power plants in the state.



Compared to the overall direct GHG emissions reported for the state of West Virginia, the amount of produced CO₂ emissions resulting from the coal burning associated with the project (295,736 Metric Tons) is negligible. Furthermore, the assessment assumed the highest amount of available coal for burning and therefore actual emission rates may be lower.

4.3.3 Significance Determination

There are no significance thresholds for aviation-related GHG emissions, nor has the FAA identified specific factors to consider in making a significance determination for GHG emissions.

⁴⁶ Online convertor used: <http://www.conversion-website.com/>.

⁴⁷ Approximately 14,000-18,000 tons of the useable coal has already been extracted for test burns. See Section 4.4.2 for additional details.

⁴⁸ U.S. Energy Information Administration website: <https://www.eia.gov/tools/faqs/faq.cfm?id=667&t=2>.

⁴⁹ US Department of Energy, <https://www.eia.gov/tools/faqs/faq.php?id=69&t=2>

⁵⁰ Extracted from *Community Greenhouse Gas Inventory for Morgantown, West Virginia*. Prepared by Downstream Strategies (June 2014).

There are currently no accepted methods of determining significance applicable to aviation, given the small percentage of emissions they contribute. CEQ has noted that “it is not currently useful for the NEPA analysis to attempt to link specific climatological changes, or the environmental impacts thereof, to the particular project or emissions, as such direct linkage is difficult to isolate and to understand.”⁵¹ Accordingly, it is not useful to attempt to determine the significance of such impacts. There is a considerable amount of ongoing scientific research to improve understanding of global climate change and FAA guidance will evolve as the science matures or if new Federal requirements are established.

Although the Proposed Action and Proposed I-68 Commerce Park site have the potential to result in greenhouse emissions, they are considered negligible and not result in a significant impact.

4.3.4 Climate Adaptation

As stated in **Chapter 3.3**, Morgantown airport is unlikely to be significantly impacted by large events directly attributable to climate change, and indirect impacts will be addressed on an ongoing basis through the routine maintenance and normal, minor improvements the airport is likely to undertake regardless.

4.3.5 Mitigation

Mitigation is not required and further analysis of GHG emissions or climate adaptation is not necessary.

4.4 Hazardous Materials, Solid Waste, and Pollution Prevention

4.4.1 Hazardous Materials

A literature search was conducted to determine presence of potential hazardous material sites using data from Environmental Data Resources (EDR). An EDR report was generated for the Morgantown Municipal Airport Runway 18-36 Extension Project. Based on the information presented in that report, there are no indications of the presence of hazardous materials that would impact the Morgantown Runway Extension Project.

4.4.2 Abandoned Mine Removal

The Pittsburgh Coal Seam is located under the existing 95-acre parcel known as the I-68 Commerce Park site; a portion of airport property; and private land (see **Exhibit 2-1**).⁵²

⁵¹ CEQ (2010). Draft Guidance, *Consideration of the Effects of Climate Change and Greenhouse Gas Emissions*, 75 Federal Register 8046 (February 23, 2010) available at <http://www.whitehouse.gov/sites/default/files/microsites/ceq/20100218-nepa-consideration-effects-ghg-draft-guidance.pdf>

⁵² Based on preliminary research, all of the mineral rights are owned by the City of Morgantown. This includes the minerals under the City and Airport property, the MCDA I 68 Commerce Park property, the adjacent property owned

The coal waste is the source of the AMD of the tributary that collects the site. The tributary is a feeder to West Run which empties directly into the Monongahela River, located in the most contaminated watershed in Monongalia County. The Pittsburgh Seam dips in a northwest direction, draining the abandoned mine into the tributary and causing the AMD present today. The removal of the abandoned mine will remove most of the source of the AMD and, therefore, contribute to the cleanup of the tributary and associated watershed.

The coal on the MCDA's I-68 Commerce Park boundary was tested (test burn) to determine the BTU content in late 2015 / early 2016. Based on information provided by the coal contractor, approximately 14,000 tons (10,000 +/- cubic yards) of coal was shipped to multiple facilities. The coal contractor also had a stockpile of approximately 4,000 tons waiting for additional test burns. The City and the MCDA met with the WVDEP on-site to develop a course of action and the procedures to be followed to remove the stockpiled coal from the property. The City and the MCDA received a letter from the WVDEP that because the coal and GOB removal was a necessary part of the I-68 Commerce Park development that no mining permits were necessary (see **Appendix M**). The stockpiled coal was then taken to a qualified and approved coal facility with all applicable permits for handling coal. All required documentation of the removal of the stock pile was maintained. All required procedures included silt sock installation, stormwater run off diversion and seeding and mulching the entire area after the stockpiled coal was removed were strictly followed per the requirements provided by WVDEP in a letter dated November 1, 2016 (see **Appendix M**). All of this has been done in coordination with the WVDEP and other required agencies.

Approximately 130 acres will be disturbed for coal/GOB removal on Airport property; private property which will ultimately become part of the MCDA's I-68 Commerce Park boundary; and on the MCDA's Commerce Park. The process to remove the coal/GOB is to first remove the overburden material and use it for the runway extension. The coal/GOB will be separated from the overburden then removed and trucked to the receiving processing plant's facility for blending to specifications. While the overburden and coal/GOB are being removed and separated, the existing AMD treatment facilities will continue to treat the AMD from the site.

As the overburden and coal/GOB are removed, the overburden will be placed for the runway extension embankments. Temporary coal/GOB stockpiles will be placed on-site upstream of the existing AMD basins only long enough to allow for shipment to the processing plant. This area can accommodate the removal and stockpile of approximately 50,000 cubic yards of material. From this point, the contractor will permanently remove the coal/GOB stockpiles. The temporary coal/GOB stockpile will be removed as expeditiously as possible once the material is stockpiled. It is anticipated that once the stockpile is at approximately 3,000 to 10,000 cubic yards, the material will be trucked to the receiving plants. The stockpiles will not exceed 50,000 cubic yards

by Airpark, LLC and the adjacent property owned by the Laurita family. This research determined that Bethlehem Steele originally had ownership rights (dating back to 1896) before being transferred to the City of Morgantown.

prior to removal of the material from the site. The overburden areas will be leveled and pads created for development of the Proposed I-68 Commerce Park site.

The coal/GOB removal is incidental to the development and the MCDA has received an Incidental Removal permit exemption through the WVDEP Office of Mining and Reclamation on January 21, 2016. The NPDES is anticipated to be approved by April 2019.

Under the No Action Alternative, the MCDA may still move forward with construction of the I-68 Commerce Park; however, MCDA would re-evaluate the feasibility of removal and/or evaluate other options (e.g., grouting the mine).

4.4.3 Significance Determination

The FAA has not established a significance threshold for hazardous materials or the removal of coal waste. However, factors to consider include situations in which the proposed action or alternative(s) would have the potential to:

- Violate applicable Federal, state, tribal, or local laws or regulations regarding hazardous materials and/or solid waste management;
- Involve a contaminated site (including, but not limited to, a site listed on the NPL);
- Produce an appreciably different quantity or type of hazardous waste;
- Generate an appreciably different quantity or type of solid waste or use a different method of collection or disposal and/or would exceed local capacity; or
- Adversely affect human health and the environment.

As stated in **Chapter 3.4**, the results of the EDR search showed no indications of the presence of an environmental condition that would impact the Morgantown Runway Extension Project. Therefore, the Proposed Action is not anticipated to violate or exceed any of the above-referenced thresholds of significance.

Under the No Action Alternative, the MCDA may move forward with construction of the I-68 Commerce Park and re-evaluate the removal of the coal/GOB from the coal seam (e.g., grouting the mine voids under the Commerce Park site versus removal). Removing the remaining coal and GOB will decrease, if not eliminate the current AMD at the site.

4.4.4 Mitigation

Removal of the coal/GOB is necessary for the Proposed Action. Although the EDR did not indicate the presence of any other conditions that would impact the project, mitigation of any other hazardous materials in the project area discovered during construction would be the responsibility of MGW (on-airport) and/or MCDA (off-airport) depending on the location of the material. Under the No Action Alternative, mitigation would be the responsibility of the MCDA if, after re-evaluating, removal would still occur.

4.5 Historical, Architectural, Archaeological, and Cultural Resources

As stated in **Chapter 3.5**, a Phase I historical and archaeological investigation, including the establishment of the APE for each, were conducted for the Morgantown Municipal Airport project site. In accordance with the requirements of Section 106, coordination was initiated with the WVDCH, which also serves as the SHPO. All designated Native American tribal organizations, referred to a Tribal Historic Preservation Offices (THPO), with declared interests within the region, as well as interested parties, were contacted. The *Determination of the Area of Potential Effects Report* is included in **Appendix G**. The *Phase I Technical Report for Archaeological Resources* (as well as the Phase 1 Addendum Reports) and coordination letters are provided in **Appendix H**.

4.5.1 Historical Resources

A historic resources field survey was conducted to identify and evaluate for NRHP eligibility of all previously undocumented properties within the APE that contain buildings, structures, objects, sites, or districts that are 50 years of age or greater, and to re-evaluate resources identified during prior surveys. The findings of the surveys show there are no resources within the APE for the Proposed Action that are listed or eligible for listing in the NRHP. Therefore, there is no potential for impacts to historic resources from the No-Action Alternative or the Proposed Action and Proposed I-68 Commerce Park site. The finding for this undertaking is No Historic Properties Affected. The SHPO concurred with this determination on October 14, 2016 (**Appendix B**). A separate letter to the SHPO, dated February 2, 2018, regarding the extension of the RSA on the north end of the runway noted that the project component is entirely within the historic resources APE. The SHPO concurred with this determination on March 1, 2018. No further historic resources investigations are recommended.

4.5.2 Archaeological Resources

As stated in **Chapter 3.5.2**, Phase I archaeological field investigations within the APE were conducted for the proposed runway extension project to assess the extent to which construction activities may physically impact undisturbed, or culture-bearing soils, that contain archaeological resources that are potentially eligible for inclusion in the NRHP. Phase I field investigations within the archaeological APE were implemented and included pedestrian reconnaissance, surface collection, metal detector survey, and the excavation of shovel test probes. Four historic archaeological sites were identified: the Laurita Site (46MG312), Mine Site (46MG313), the Crowder Site (46MG324), and the Helen Coal Company Site (46MG325) (see **Exhibit 3-2**).

Only the Laurita Site (46MG312), is recommended as a potentially NRHP-eligible archaeological resource, a recommendation which has been concurred with by the SHPO (**Appendix B**). Due to design modifications since the initiation of field investigations, the APE has been modified placing the Laurita Site (46MG312), as well as the non-eligible Mine Site (46MG313), outside of the runway extension project limits. Therefore, both the No-Action Alternative or the Proposed Action

and Proposed I-68 Commerce Park site would not impact archaeological resources. The SHPO concurred with this determination on August 23, 2016 (**Appendix B**). Modifications in January 2018 to the runway design necessitated the establishment of an addendum archaeological APE which documented no impacts to archaeological resources within this addendum area. Concurrence from the SHPO regarding this determination was received on March 1, 2018.

4.5.3 Significance Determination

The FAA has not established a significance threshold for the full range of historical, architectural, archaeological, and cultural resources; however, a Section 106 finding of Adverse Effect can be considered significant depending on the context of the property and the mitigation proposed.

In making a Section 106 effect determination, the FAA considers several different types of impacts to historic properties, including direct and indirect impacts from both construction and operation activities. The recommendations of the historic resources and archaeological investigations are that no properties within the established APE are eligible for the NRHP. The SHPO concurred with these recommendations (**Appendix B**).

4.5.4 Mitigation

There would be no impacts to historic properties as a result of the proposed project. Therefore, no mitigation measures would be required. Although no impacts are anticipated to the Laurita Site (46MG312) – all disturbance will be contained 15m (50 feet) north and east of the site and demarcated on plans to ensure avoidance of this resource.

4.6 Land Use and Zoning

The compatibility of existing and planned land uses in the vicinity of an airport is associated with the Proposed Action's consistency with state and/or local plans. The Proposed Action and Proposed I-68 Commerce Park is supported in multiple components of the City of Morgantown's *Comprehensive Plan, 2013 Update* objectives, including: Transportation, Economic Development, and Land Management.⁵³ In addition, the Proposed Action is contained in the current and previous Airport Master Plans.

Correspondence received from the Monongalia Planning Commission on September 19, 2015 indicated that the Commission is concerned about providing land use controls for the runway protection zones in the areas within the county not covered by land use controls (**Appendix B**). Since this issuance of this correspondence, the following has occurred with interested parties regarding land use/zoning within the vicinity of the Airport:

- December 2017 - The Monongalia County Commission declared its support for the extension project and approved a letter of support and that it would help with new business

⁵³ City of Morgantown, West Virginia. *Comprehensive Plan, 2013 Update*. See Chapter 4, Transportation, page 66; Chapter 8, Economic Development, page 96; and Map 4, Land Management, page 39.

development near the airport and assist with the West Virginia National Guard Readiness Center and Camp Dawson (**See Appendix K**).

- March 2018 – West Virginia House Bill 4238 allowing county planning commissions to form Joint Comprehensive Hazard Plans with regards to the development of land adjoining airports. The intent is to satisfy FAA regulations and to ensure structures are not built that could interfere with airport use. The Bill was approved and signed by the Governor on March 22, 2018.

Therefore, both the county and the city are committed to land use and zoning controls to minimize land use conflicts for the Proposed Action.

The Proposed Action would result in land use changes as part of the seven (7) residential displacements required (Refer to **Section 4.8**, Socioeconomics). The Proposed Action would not result in closer proximity to land uses that may adversely affect aviation operations at MGW (e.g., municipal landfills, wildlife refuges, wetland mitigation, or unrestricted height zoning uses).

4.6.1 Significance Determination

The FAA has not established a significance threshold for land use. While this EA includes a discussion regarding consistency with state and/or local plans, an inconsistency by itself does not automatically result in a significant impact.

Given that the Proposed Action is contained in the city, county, and airport plans, it is considered consistent and compatible with existing and future land uses and zoning. The No Action Alternative would fail to promote the future land use plans of the City of Morgantown and Monongalia County by way of not extending the runway.

4.6.2 Mitigation

Mitigation for land use and zoning is not necessary for the Proposed Action or Proposed I-68 Commerce Park site.

4.7 Noise & Noise-Compatible Land Use

A standard noise analysis was prepared to evaluate the significance of changes to noise conditions as a result of the Proposed Action (**Appendix I**). The required FAA tool for evaluating noise exposure associated with airport activity is the AEDT. AEDT is designed to estimate long-term average effects using average daily input conditions. FAA's approved version at the time of project initiation, AEDT Version 2b was utilized to develop the noise analysis. The *Noise Analysis Report* is provided in **Appendix I**. The results of the analysis indicate neither the Proposed Action nor the No Action Alternative would create a significant noise impact.

4.7.1 Significance Determination

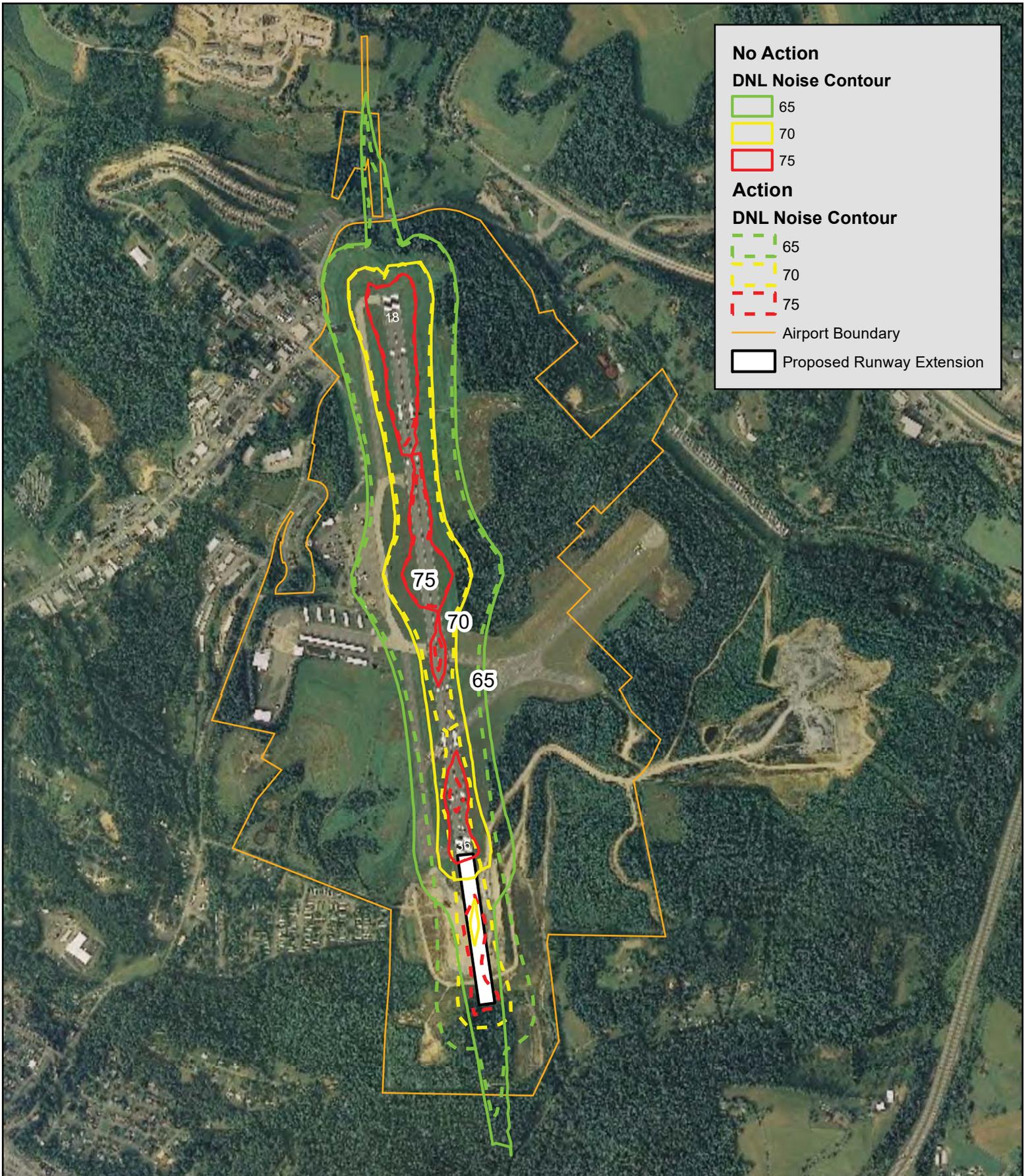
FAA's significance threshold for noise occurs when the action would increase noise by DNL 1.5 dB or more for a noise sensitive area that is exposed to noise at or above the DNL 65 dB noise

exposure level, or that will be exposed at or above the DNL 65 dB level due to a DNL 1.5 dB or greater increase, when compared to the No Action Alternative for the same timeframe.

Under the No Action Alternative, the total size of the 65 DNL and greater noise contour would increase over the timeframe evaluated due to normal growth of operations. The total acreage would be 423.4 acres. No individuals or noise sensitive land uses would be exposed to sound levels 65 DNL or greater noise contour. Because no individuals or noise sensitive land uses are within the 65 DNL, no individuals or noise sensitive land uses would receive noise increases of 1.5 dB or greater. Therefore, the No Action Alternative would not create a significant noise impact.

Under the Proposed Action, the total land area exposed 65 DNL and greater would increase by 3.9 acres over the timeframe evaluated when compared to the No Action Alternative. The No Action 65+ DNL contour would grow to 423.4 acres. The Proposed Action 65+ DNL contour would grow to 427.3 acres (3.9 acre difference). No individuals or noise sensitive land uses would be exposed to sound levels 65 DNL or greater. Because no individuals or noise sensitive land uses are within the 65 DNL noise contour, no individuals or noise sensitive land uses would receive noise increases of 1.5 dB or greater. Therefore, implementation of the Proposed Action would not create a significant noise impact.

Exhibit 4-1 depicts the DNL Noise Contour Map for the year of implementation and compares the Action versus No Action Alternatives. **Exhibit 4-2** depicts the DNL Noise Contour Map for five years after implementation of the Proposed Action and compares the Action versus No Action Alternatives.



No Action
DNL Noise Contour
 65
 70
 75

Action
DNL Noise Contour
 65
 70
 75

— Airport Boundary
 [] Proposed Runway Extension

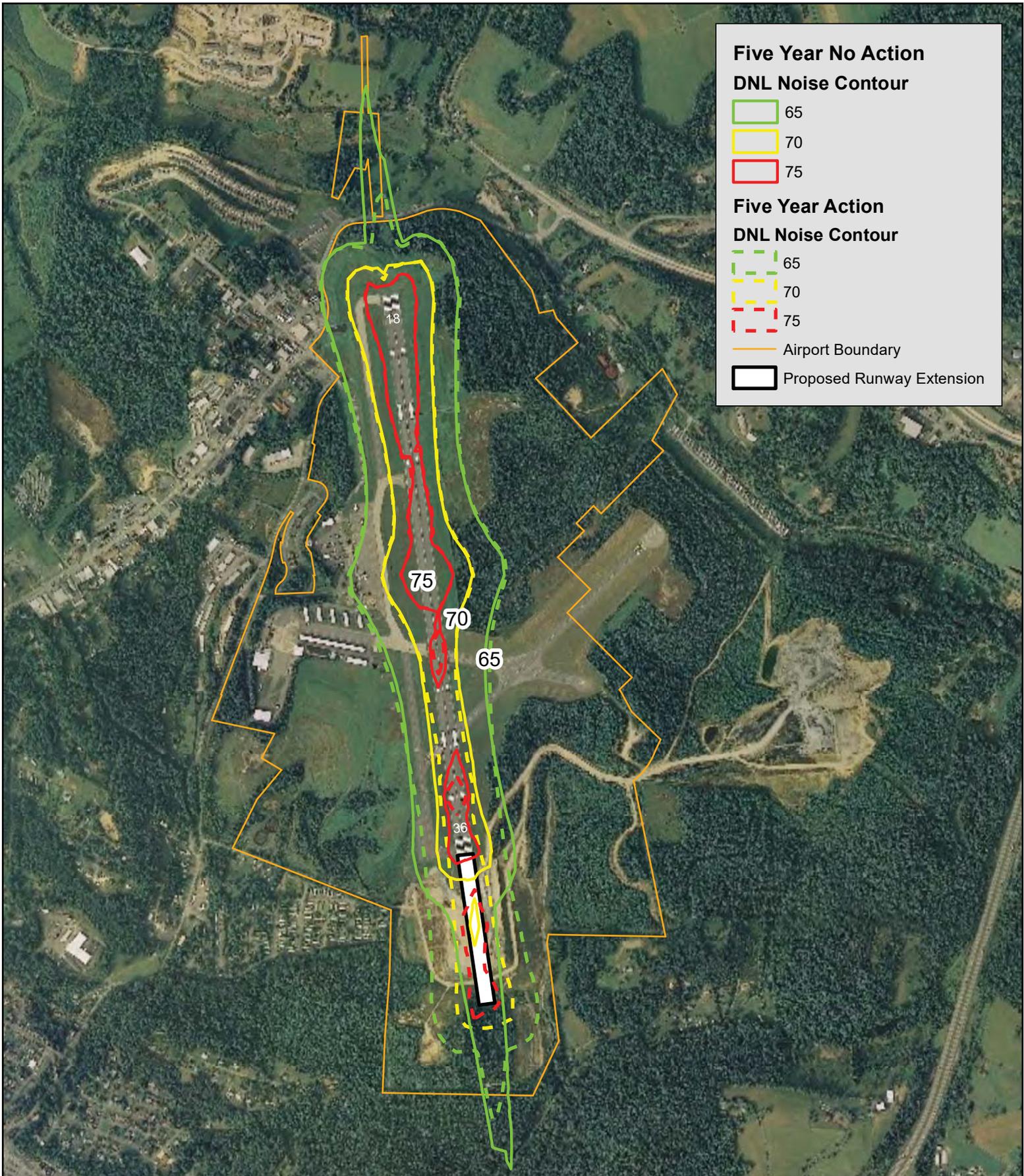
**Morgantown Municipal Airport
 Environmental Assessment**

Exhibit 4-1 - Noise Contour Map - Year of Implementation - Action vs. No Action



Michael Baker
 INTERNATIONAL





**Morgantown Municipal Airport
Environmental Assessment**

Exhibit 4-2 - Noise Contour Map - Five Years After Implementation - Action vs. No Action



4.7.2 Mitigation

Because there are no significant noise impacts, mitigation is not required.

4.8 Socioeconomics

Socioeconomics is an umbrella term used to describe aspects of a project that are either social or economic in nature. Factors to consider include situations in which the Proposed Action would have the potential to: induce economic growth; change the community tax base; require relocations of residents, businesses, or non-profit organizations; affect the cohesion of an established community; disrupt local traffic patterns and reduce the levels of service of roads serving the airport and surrounding communities; and place undue pressure on community facilities and services.

4.8.1 Economic Activity

In part, the purpose of the Proposed Action is to generate economic activity within the Morgantown and Monongalia County area. The airport experiences a high volume of corporate jet operations every year and loses opportunities for additional corporate and commercial jet operations due to the limited runway length. The City states it is critical to extend the runway in order to serve existing and desired users and to keep up with the demands of the growing local economy and institutions such as WVU, as well as to provide similar commercial aviation opportunities as other airports in West Virginia.⁵⁴ The additional aircraft traffic will create additional revenue for the airport via fuel sales, as well as additional revenue for area business in terms of additional meals, lodging, car rentals, taxes, and fees generated.

The Morgantown Area Economic Partnership (MAP) is a regional, non-profit, public-private sector partnership that helps businesses expand, grow, and locate in Monongalia and Preston counties. The MCDA is an arm of county government whose purpose is to “promote, develop and advance the business prosperity and economic welfare of Monongalia County.” These two organizations work together to promote economic development within the region, including making the MCDA’s I-68 Commerce Park their top economic development priority.⁵⁵ The combination of the runway extension and the development of the business park is expected to create “a vibrant and diverse economy, supporting business development and growth, quality jobs, and the area’s natural beauty”.⁵⁶

While it cannot be quantitatively estimated at this time how much the Proposed Action would impact the local economy, it is anticipated that it would qualitatively have a greater economic benefit over the No Action Alternative.

⁵⁴ Michael Baker International for the City of Morgantown, WV. *Morgantown Municipal Airport: Runway Extension Justification Study*. January 2018.

⁵⁵ The Morgantown Area Economic Partnership and the Monongalia County Development Authority. *Structure, Vision, Mission, Goals, and the Fiscal Year 2015 Work Program*.

⁵⁶ *Ibid.* Page 1.

4.8.2 Housing and Relocations

If acquisition of real property or displacement of persons is involved in a project, 49 CFR part 24 (implementing the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970), as amended, must be met for Federal projects and projects involving Federal funding.

No commercial or non-profit relocations would result from construction of the Proposed Action. However, construction of the runway extension would require partial or full acquisition of 14 parcels including the relocation of seven (7) residences within the vicinity of Wolfe Run Road (**Exhibit 4-3**). Given the steep terrain of the area and per FAA AC 150/5300-13A *Airport Design*, the fill slopes for the extension range from ratios of 1.5:1 to 1.8:1 to 2:1, making avoidance of these properties impossible.

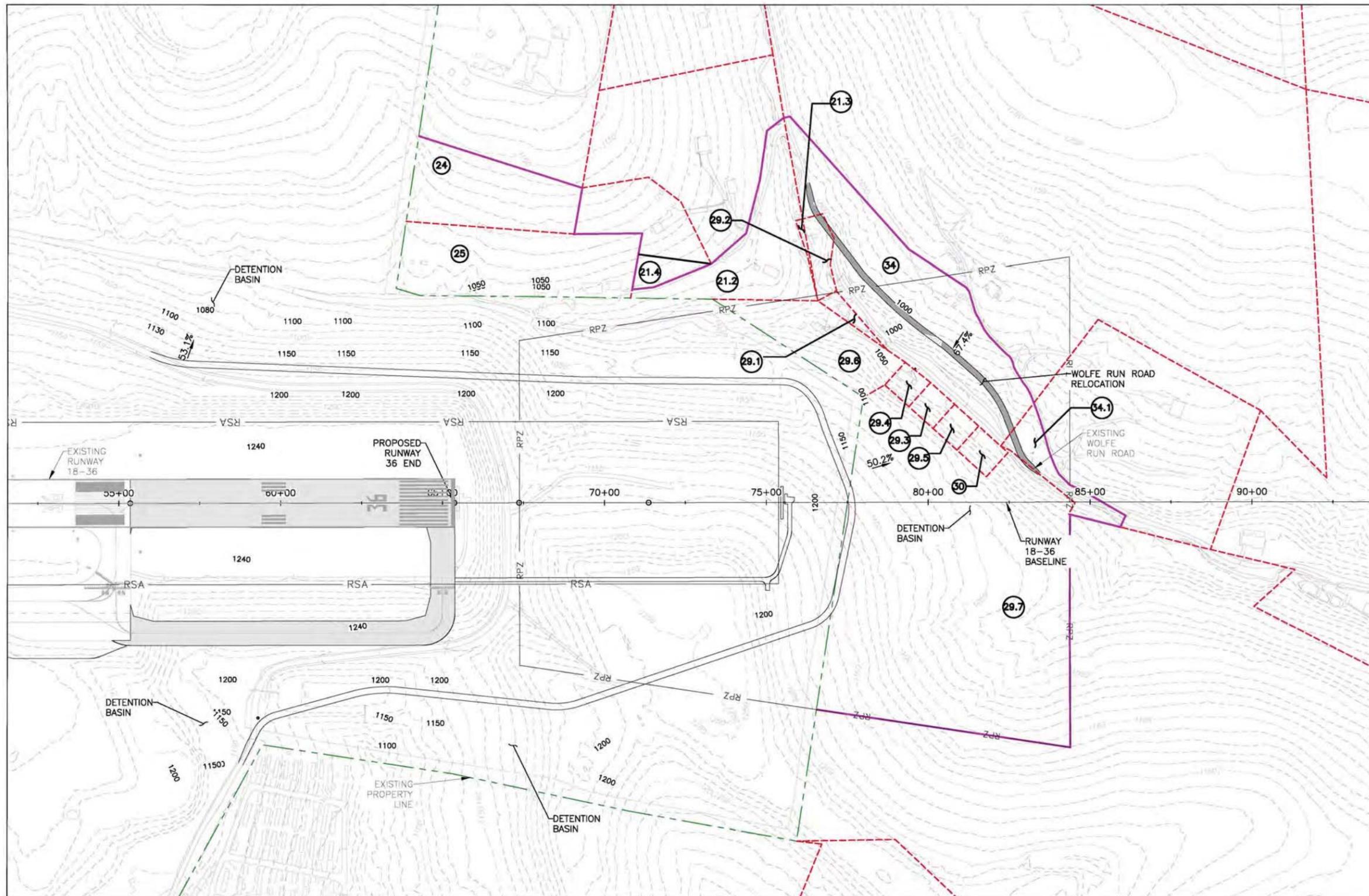
Where displacements are unavoidable, fair and equitable compensatory mitigation will be implemented in accordance with the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646). As is the case with any relocation, the Uniform Relocation Act ensures that persons displaced as a result of a Federal action or by an undertaking involving Federal funds are treated fairly, consistently, and equitably. This includes, if necessary, a provision for housing of last resort as authorized by Section 206(a) of the Uniform Relocation Assistance and Real Property Acquisition Policies Act. This helps to ensure persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. Persons who will be displaced will personally work with a Relocation Agent from the City of Morgantown.

A desktop review was conducted to determine the availability of housing (purchase and rental) and land within the vicinity of the Morgantown area. Based on a review of available real estate, 140 homes are currently available for sale, over 90 homes are available for rent, and over 50 lots/land sites are available for purchase within the City of Morgantown.⁵⁷ Within Monongalia County, over 430 homes are available for sale, 200 homes are available for rent, and over 250 lots/land sites are available for purchase; the majority of which are located near the Morgantown area.⁵⁸ However, in order to fully determine the availability of fair and equitable mitigation, it would be necessary to appraise and determine the fair market value of the real property to be acquired.

All tenant and owner residential occupants who may be displaced will receive an explanation regarding all available options, including: 1) purchases of replacement housing; 2) rental of replacement housing, either private or public; and 3) moving existing owner-occupied housing to another site (if practicable). The relocation officer also will supply information concerning other state or Federal programs offering assistance to displaced persons and will provide other advisory services as needed in order to minimize hardships to displaced persons in adjusting to a new location

⁵⁷ Online view of Zillow.com on 1/10/18 at: http://www.zillow.com/homes/for_sale/Monongalia-County-WV/.

⁵⁸ Ibid.



LEGEND:

- EXISTING AIRPORT PROPERTY LINE
- NEIGHBORING PROPERTY LINE
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- LIMIT OF PROPERTY ACQUISITION



Last Resort Housing is a program used when comparable replacement housing is not available, or is unavailable within the displacee's financial means, and the replacement payment exceeds the Federal and state legal limitation. The purpose of the program is to allow broad latitudes in methods of implementation by the state so that decent, safe, and sanitary replacement housing can be provided. Because opportunities for replacement housing appear adequate within the area, it is not likely that the Last Resort Housing Program will be necessary for the Proposed Action.

There would be no displacement of residential, commercial, or non-profit entities under the No Action Alternative.

4.8.3 Social Conditions

Under the Proposed Action, community cohesion among the residences along Wolfe Run Road may be adversely affected. As a result of the fill slope requirements for the runway extension, seven (7) residences along this road would be displaced and a portion of Wolfe Run Road would be relocated. Wolfe Run Road would be relocated for the remaining residents as a result of the Proposed Action⁵⁹.

There would be no disruption of community cohesion under the No Action Alternative.

4.8.4 Public Services

Neither the Proposed Action nor the No Action Alternative would result in any relocations of community facilities such as schools, churches, and medical facilities. The Proposed Action will generate additional automobile trips to and from the airport.

FAA's EA for the release of the landside development area states that a ". . . new access road is being built to the north side of the proposed business park development to provide a new connection between the WVARNG Readiness Center and County Road 857. The proposed business park development would also utilize this access road, and result in increased traffic on the access road and County Road 857 as the business park fully develops. However, a traffic study was previously completed for the new access road and the design takes into account the additional long-term traffic generated by the proposed business park development. While there would be increased traffic to the access road and County Road 857, it is not expected to result in adverse impacts to these roadways."⁶⁰

The increase in vehicular trips and the additional need for support services is not likely to result in an unmanageable or unplanned for demand on transportation, medical, rescue, education, or utility services.

⁵⁹ As detailed design continues, the relocation of Wolfe Run Road may not be required as part of the Proposed Action thereby reducing socio-economic impacts.

⁶⁰ Federal Aviation Administration. Prepared for the City of Morgantown, WV. *Final Environmental Assessment for Morgantown Municipal Airport: Proposed Release of Landside Development Area*. August 2014. Page 27.

4.8.5 Significance Determination

The FAA has not established a significance threshold for socioeconomic impacts. In general, the significance of the impact is determined by the magnitude and duration of the impact, whether beneficial or adverse. Factors to consider that may be applicable to socioeconomic resources can include situations in which the Proposed Action or No Action Alternative would have the potential to:

- Induce substantial economic growth in an area, either directly or indirectly (e.g., through establishing projects in an undeveloped area);
- Disrupt or divide the physical arrangement of an established community;
- Cause extensive relocation when sufficient replacement housing is unavailable;
- Cause extensive relocation of community businesses that would cause severe economic hardship for affected communities;
- Disrupt local traffic patterns and substantially reduce the levels of service of roads serving an airport and its surrounding communities; or
- Produce a substantial change in the community tax base.

Of the factors noted above, the Proposed Action would require the acquisition of seven (7) residences thereby disrupting the physical arrangement of a community of residents within the vicinity of the Proposed Action. These residences are dispersed along Wolfe Run Road and are not located within one single community, rather part of a much larger Mileground community area completely surrounding MGW. Displacement of seven residences in the context of the overall Mileground community would not result in a substantial change in community tax base nor would it substantially alter the overall community composition. Given the availability of existing relocation potential within the immediate vicinity, impacts to employment, community businesses, etc. are not anticipated. However, the Proposed Action would result in disruption to local traffic patterns due to the relocation of Wolfe Run Road but would not result in the overall reduction of levels of service to the existing roadway network. In addition, the Proposed Action would result in some community disruption due to the proposed residential displacements along Wolfe Run Road. However, according to FAA 1050.1F, if these factors exist, there is not necessarily a significant impact; rather, FAA must evaluate these factors in light of context and intensity to determine if there are significant impacts.

The FAA policy is to ensure fair compensation in the event acquisition of housing and businesses prior to the construction of a project under the Airport Improvement Program is necessary. The Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (the Uniform Act) and the implementing regulations (49 CFR Part 24), also provide for the fair relocation of homeowners and business owners impacted by an airport development project. The FAA AC 150/5100-17, *Land Acquisition and Relocation Assistance for Airport Improvement Program Assisted Projects* provides land acquisition and relocation guidance for airport sponsors in accordance with the Uniform Act and the 49 CFR Part 24.

The Relocation Assistance Program outlined in FAA AC 150/5100-17 requires the airport sponsor to engage professionals experienced in the implementation of airport acquisition and relocation programs. These professionals will work closely with the homeowners being displaced by the airport project. This guidance also provides procedures for a “Housing of Last Resort” to ensure that homeowners are relocated to decent, safe, and sanitary replacement housing. This provision allows for a wider range of relocation procedures to be used if comparable replacement housing is not available or if that housing is beyond the financial means of the homeowner and exceeds the Federal or state legal limitation. There is an adequate supply of replacement land and housing available in the Morgantown area and surrounding areas to accommodate the displaced residents.

As stated previously, the FAA has not established a significance threshold for socioeconomic impacts. However, induced impacts will normally not be considered significant, except where there are also significant impacts in other categories, especially noise, land use, or direct social impacts. There are no other impacts above significance thresholds to other resources resulting from the Proposed Action and Proposed Commerce Park.

While considering the requirements of the Uniform Relocation Act and FAA AC 150/5100-17 regarding financial payment and/or relocation assistance, and the finding of no impacts above significance thresholds to other resources, the Proposed Action and Proposed I-68 Commerce Park site, though adverse, is not considered to have significant impacts to socioeconomic resources.

Under the No Action Alternative, significant adverse socioeconomic impacts are not anticipated.

4.8.6 Mitigation

Under the Proposed Action, mitigation of residential displacement impacts will be made in accordance with the Uniform Relocation Act. Financial payment and/or relocation assistance to renters and people who are displaced from their homes will be in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970.

4.9 Environmental Justice and Title VI of Civil Rights

Executive Order 12898, Environmental Justice, requires Federal agencies to determine whether a disproportionately high and adverse impact may occur to minority and/or low-income populations as a result of a proposed action. When the FAA determines that a project has significant impacts in any environmental impact category, the potential for disproportionately high and adverse effects on minority or low-income populations must be examined pursuant to DOT Order 5610.2(a). There are three fundamental environmental justice principles:

- To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations.
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.

- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

Under Title VI of the Civil Rights Act of 1964, the FAA is required to ensure that no person, on the ground of race, color, or national origin, is excluded from participation in, denied the benefits of, or subjected to discrimination under any program or activity receiving Federal financial assistance. The Title VI requirements are broader in scope than Environmental Justice and apply to all Federally-funded projects and activities, not solely those which may have adverse human health or environmental effects on communities.

4.9.1 Environmental Justice Populations

The FAA's 1050.1F guidance on Environmental Justice is the basis for determining the presence of Environmental Justice populations within the project area.⁶¹ As stated in **Chapter 3.8**, the demographics of the project area reveal that minorities represent 8% of the population in Census Tract 108, whereas low-income populations represent 37% (see **Table 3.19** and **Exhibit 3-9**). This percentage of low-income persons within Census Tract 108 is lower than that of the City of Morgantown (43%), but higher than Monongalia County (33%), and West Virginia (30%). Therefore, potential impacts to low-income populations within Census Tract 108 are examined to determine if there is a disproportionately high and adverse impact.

Disproportionately high and adverse effect on minority and low-income populations means an adverse effect that:

- Is predominately borne by a minority and/or a majority low-income population; or
- Will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority population and/or non-low-income population.

The Proposed Action requires the displacement of seven (7) residences, within Census Tract 108, a low-income population (see **Exhibit 4.3**). These are the only displacements/relocations associated with the Proposed Action. The remaining residents along the northern end of Wolfe Run Road may feel isolated, excluded, or separated from their community as a result of the displacement of their neighbors. Given that this impact is borne solely within a Census Tract showing 37% low-income population, this Environmental Justice impact can be considered disproportionately high and adverse.

While impacts to the low-income population within Census Tract 108 are considered disproportionately high and adverse, mitigation and enhancement measures and offsetting benefits are possible. For those displaced, the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public Law 91-646) ensures that displacees are treated

⁶¹ Federal Aviation Administration, Office of Environment and Energy. *1050.1F Desk Reference*. "12.2 Environmental Justice". July 2015. Page 12-10.

fairly, consistently, and equitably. Therefore, no significant impacts to Environmental Justice populations would result from the Proposed Action.

The City of Morgantown has hosted numerous public meetings, provided individual notifications, and had one-on-one conversations with the community/impacted residents as part of their outreach efforts (**Attachment C**). One-on-one meetings with the affected property owners was held on June 16 2016. The meetings included sharing of preliminary outlines of the project, timelines, and overall discussions about the project. Since those meetings, counsel for the MCDA in conjunction with the City has been in contact regularly with several of the property owners. In general, displaced residents shared concerns regarding lost property, environmental impacts to Wolfe Run Stream, Wolfe Run Road relocation⁶², potential debt after relocation and the overall timeline of the project and when the acquisition would occur. The City of Morgantown will be committed to continuing outreach with these property owners throughout the design phase and communicate project schedules, the relocation assistance process, and efforts to minimize environmental/socio-economic impacts. Counsel for the MCDA in conjunction with the City has additional follow up meetings planned with the property owners as the project moves forward in design.

In addition, multiple articles and interviews in local newspapers and news shows have appeared, informing the public of the Proposed Action and soliciting public input. Public outreach efforts will continue as the project moves forward through the planning process and design phases of the project.

Because there would be no displacements or acquisition of private property, the No Action Alternative would not have a disproportionately high and adverse impact to minority and/or low-income populations.

4.9.2 Title VI Commitments

The City of Morgantown and the FAA are committed to compliance with Title VI of the Civil Rights Act and Regulations relative to non-discrimination in Federally-assisted programs. Under the Proposed Action, any work performed will not discriminate on the grounds of race, color, or national origin.

4.9.3 Significance Determination

The FAA has not established a significance threshold for Environmental Justice. However, factors to consider include situations in which the Proposed Action would have the potential to lead to a disproportionately high and adverse impact to an environmental justice population, i.e., a low-income or minority population.

⁶² As detailed design continues, the relocation of Wolfe Run Road may not be required as part of the Proposed Action thereby reducing costs as well as socio-economic and stream impacts.

Under the Proposed Action, given that the property acquisitions, relocations, and community isolation is borne solely within a Census Tract showing 37% low-income population, this Environmental Justice impact is considered disproportionately high and adverse. While considering the requirements of the Uniform Relocation Act and FAA AC 150/5100-17 regarding financial payment and/or relocation assistance, and the finding of no impacts above significance thresholds to other resources, the Proposed Action and Proposed I-68 Commerce Park site is not considered to have significant impacts to Environmental Justice communities.

Under the No Action Alternative, significant adverse Environmental Justice impacts are not anticipated.

4.9.4 Mitigation

Under the Proposed Action, mitigation of property acquisitions and residential displacement impacts will be made in accordance with the Uniform Relocation Act. Financial payment and/or relocation assistance to renters and people who are displaced from their homes will be in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970.

4.10 Children's Health and Safety Risks

Pursuant to Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks* 62 Federal Register 19885, (April 21, 1997), Federal agencies are directed to identify and assess environmental health risks and safety risks that may disproportionately affect children. This includes risks to health or to safety that are attributable to products or substances that a child is likely to come in contact with or ingest, such as air, food, drinking water, recreational waters, soil, or products they might use or be exposed to. For the purpose of this analysis, a significant impact to air quality, schools or public recreation facilities would be considered a significant risk to children's health and safety.

The No Action Alternative would not change the current configuration of the Airport and there would be no change to the manner in which MGW affects the surrounding community. Therefore, no impacts to children's health or safety would result.

The Proposed Action and the Proposed I-68 Commerce Park site would not result in adverse impacts to air, noise, or water quality and there are no schools or other community facilities within the project area. Therefore, the Proposed Action would not result in significant, adverse or disproportionate impacts to children's health or safety.

4.10.1 Significance Determination

The FAA has not established a significance threshold for children's environmental health and safety risks. However, situations in which the proposed action or alternative(s) have the potential to lead to a disproportionate health or safety risk to children are to be considered.

The No Action Alternative does not pose an environmental health or safety risk to children.

Because no adverse impacts to air quality, sensitive noise receptors, and water quality are anticipated as a result of the Proposed Action or Proposed I-68 Commerce Park site, no disproportionately high health and safety risks are anticipated for this sensitive population. In addition, the current AMD from the existing coal/GOB will be reduced or eliminated as a result of removal of the coal/GOB, thereby improving the overall environmental health of the community.

Therefore, it was determined that no significant risks or disproportionate impacts to the health and safety of children would occur as a result of the Proposed Action or Proposed I-68 Commerce Park site.

4.10.2 Mitigation

Since the Proposed Action and the Proposed I-68 Commerce Park site would not result in any adverse or disproportionate impacts, mitigation is not required to protect children's health and safety risks.

4.11 Visual Effects

FAA Order 1050.1F requires the FAA to consider the extent to which any lighting associated with a Proposed Action would create an annoyance among people in the vicinity or interfere with normal activities. Aviation lighting is required for navigational and safety purposes within the majority of the project area. Further analysis is required when a proposed action would result in sources of new lighting that would potentially affect residential land uses, or other sensitive land uses.

4.11.1 Potential Light Emissions Impacts

The existing light emissions cause little to no annoyance to the surrounding area due to the location of MGW, approximately 70-100 feet higher than adjacent non-airport property. The No Action Alternative would not alter the current light emissions at the Airport. Therefore, the No Action Alternative would not have a significant impact.

The Proposed Action will increase the light emissions due to the additional light installation for the runway extension. However, residences would be generally located over 1,000 feet from the proposed runway extension and the steep slopes and higher elevation of MGW would reduce light emission impacts and cause little to no annoyance similar to existing conditions. The Proposed I-68 Commerce Park site is located farther away from nearby residences and not anticipated to result in light emissions. Development/light emissions would be most visible from existing I-68 but would not negatively impact motorists. Therefore, the additional lights are not anticipated to have a significant impact on the surrounding areas.

4.11.2 Potential Visual Impacts

Construction of the runway extension and Proposed I-68 Commerce Park site would result in both temporary and permanent visual impacts. Temporary impacts would be the sighting of construction equipment during construction. Permanent impacts are the conversion of undeveloped land to a developed environment for both the runway extension and Proposed I-68 Development Park site.

4.11.3 Significance Determination

FAA has not established specific thresholds for light emissions and visual resources/character. Instead, a project is evaluated based on the degree to which it has the potential to⁶³:

- create annoyance or interfere with normal activities from light emissions;
- affect the visual character of the area due to light emissions, including the importance, uniqueness, and aesthetic value of the affected visual resources;
- affect the nature of the visual character of the area;
- contrast with the visual resources and/or visual character in the project area, and
- block or obstruct views of visual resources, including whether these resources would still be viewable from other locations.

The No Action Alternative would not result in any additional light emissions or visual impacts.

The airport is located on a plateau, approximately 70-100 feet higher than adjacent non-airport property. Therefore, impacts from light emissions from the Proposed Action are unlikely. The visual landscape will be altered due to the proposed clearing of trees adjacent to airport property. Given the amount of forested land within the vicinity of the LOD, it is not anticipated to affect the overall nature of the visual character of the area. Permanent impacts to light emissions resulting from the proposed I-68 Commerce Park site are anticipated to be minimal. Although some temporary construction impacts are anticipated from the Proposed Action and Proposed I-68 Commerce Park site, permanent visual impacts will be negligible.

4.11.4 Mitigation

Because there are no significant increase in light emissions or visual impacts, mitigation is not required.

⁶³ Federal Aviation Administration, Order 1050.1F, *Environmental Impacts: Policies and Procedures*, July 2015.

4.12 Water Resources

4.12.1 Wetlands

No wetlands would be directly impacted under the No Action Alternative⁶⁴. However, due to continued existence of AMD from the abandoned coal seam, the No Action Alternative would result in continued risk to existing wetlands associated with potential AMD contamination requiring the City's continued reliance on passive and active AMD treatment facilities.

As presented in **Chapter 3.10**, unavoidable impacts to wetlands will occur under the Proposed Action and Proposed I-68 Commerce Park site. Approximately 1.6 acres of palustrine emergent (PEM) wetlands will either be filled for the construction of the runway extension and/or removed as a result of the Proposed I-68 Commerce Park site (**Table 4.6**).

When a proposed project has an unavoidable impact to a wetland that is determined to be jurisdictional by the ACOE under the CWA, the following permits and certification will be required. Permit applications for both the Proposed Action and the Proposed I-68 Commerce Park will be submitted.

Section 404 Permit

Section 404 of the Clean Water Act (CWA) authorizes the ACOE to issue permits, after the notice and opportunity for public hearing, for the discharge of dredged or fill material into the waters of the United States. Under Section 404, no discharge of dredged or fill material can be permitted if a practicable alternative exists that avoids or minimizes wetland impacts. Therefore, when an applicant applies for a permit it must show and explain that it has:

- Taken steps to avoid wetland impacts where practicable;
- Minimized potential impacts to wetlands, and
- Provided compensation for any remaining, unavoidable impacts through activities to restore or create wetlands.

It is not necessary to complete the Section 404 permit process to complete the NEPA process, although it is beneficial to the process. Given the area of wetland impacts under the Proposed Action, an Individual Section 404 Permit will be required.

⁶⁴ It is possible wetlands impacts would occur under the No Action Alternative (if the proposed I-68 Commerce Park is still developed), but for the sake of considering the full extent of the Proposed Action's potential impacts, this analysis assumes the site will not be developed under the No Action Alternative.

Table 4.6 • Wetland Impacts Per System

Wetland ID	Cowardin Classification	Wetland Impacts (SF) / (Acre)
Morgantown Airport Runway Extension Wetlands		
W-01	PEM	0 / 0
W-02	PEM	0 / 0
W-03	PEM	0 / 0
W-04	PEM	0 / 0
W-05	PEM	4062.5 / 0.093
W-06	PEM	0 / 0
W-07	PEM	447 / 0.010
W-08	PEM	1,371.8 / 0.031
W-09	PEM	561.9 / 0.013
W-SQS-01	PEM	3,671.2 / 0.084
W-SQS-04	PEM	19,765.8 / 0.453
W-10	PSS	0 / 0
W-11	PEM	456.9 / 0.010
W L2 02	PEM/PSS	0 / 0
AIRPORT WETLAND IMPACT SUBTOTAL		0.694
Proposed I-68 Commerce Park Wetlands		
LDG W-07	PEM	365.6 / 0.008
LDG W-02	PEM	0 / 0
LDG W-01	PEM	1,706.2 / 0.040
LDG W-08	PEM	0 / 0*
LDG W-04	PEM	9,553.7 / 0.219
LDG W-03	PEM	23,717.2 / 0.544
LDG W-11	PEM	237.5 / 0.005
LDG W-06	PEM	2,347.3 / 0.053
LDG W-05	PEM	360.1 / 0.008
LDG W-09	PEM	1,570.7 / 0.036
PROPOSED I-68 COMMERCE PARK WETLAND SUBTOTAL		0.913
TOTAL		1.6 Acres

* Although preliminary calculations using grading plans determined no impacts to LDG W-02 or LDG W-08 would result from the Proposed Action or Proposed I-68 Commerce Park site, the systems are located within close proximity of the proposed borrow areas and therefore may experience temporary impacts. As the project moves into the design phase, impact analyses will be refined prior to submitting permit applications to regulatory agencies.

Section 401 Water Quality Certification

Before the ACOE can issue a Section 404 permit, a Section 401 water quality certification must first be obtained from the WVDEP. In most cases, Section 401 certification reviews are conducted at the same time as Section 404 permit reviews.

Executive Order 11990, Protection of Wetlands, and DOT Order 5660.1A, Preservation of the Nation's Wetlands

Under the Proposed Action, for unavoidable wetland impacts, the FAA will make a written finding to comply with Executive Order 11990, *Protection of Wetlands*, 42 Federal Register 26961, (May 24, 1977) and DOT Order 5660.1A, *Preservation of the Nation's Wetlands*. Section 2(a) of the

Executive Order states “each agency, to the extent permitted by law, shall avoid undertaking or providing assistance for new construction located in wetlands unless the head of the agency finds (1) that there is no practicable alternative to such construction, and (2) that the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use. In making this finding the head of the agency may take into account economic, environmental and other pertinent factors.” This finding will be made in the Finding of No Significant Impact and documentation necessary to support the finding will be contained in the final EA.

4.12.1.1 Significance Determination

For FAA, a significant wetland impact occurs when the action would:

- Adversely affect a wetland’s function to protect the quality or quantity of municipal water supplies, including surface waters and sole source and other aquifers;
- Substantially alter the hydrology needed to sustain the affected wetland system’s values and functions or those of a wetland to which it is connected;
- Substantially reduce the affected wetland’s ability to retain floodwaters or storm runoff, thereby threatening public health, safety or welfare (the term welfare includes cultural, recreational, and scientific resources or property important to the public);
- Adversely affect the maintenance of natural systems supporting wildlife and fish habitat or economically important timber, food, or fiber resources of the affected or surrounding wetlands;
- Promote development of secondary activities or services that would cause the circumstances listed above to occur, or
- Be inconsistent with applicable state wetland strategies.

Under the Proposed Action and the Proposed I-68 Commerce Park site, overall impacts to wetlands would not be significant. Mitigation measures would be carried out through the conditions and terms of the Section 404 permit.

4.12.1.2 Mitigation

Proposed impacts to wetlands for the Proposed Action and I-68 Commerce Park will require mitigation. Mitigation for impacts to wetlands were calculated using the West Virginia Stream and Wetland Valuation Metric (SWVM) (**Appendix J**). The metric calculated appropriate mitigation ratios for wetland impacts and include a total of 3.21 acres of PEM (which equates to approximately a 2:1 ratio). Wetland mitigation will be designed to complement the riparian zones and can provide water quality functions - recharging groundwater, removing pollutants and flood water storage. No open water areas are proposed. Specific details regarding mitigation will have to be approved by the ACOE and WVDEP during the permit application review.

4.12.2 Surface Waters

Under the No Action Alternative, no surface waters or streams would be directly impacted. However, continued existence of AMD from the abandoned coal seam would result in continued

risk to surface waters requiring the City's continued reliance on passive and active AMD treatment facilities.

As presented in **Chapter 3.10**, unavoidable impacts to surface waters and streams will occur under the Proposed Action and Proposed I-68 Commerce Park site. Approximately 4,624 linear feet of streams will either be filled for the construction of the runway extension and/or the proposed I-68 Commerce Park. **Table 4.7** lists impacted streams per system and stream category.

Given that the Proposed Action and the Proposed I-68 Commerce Park site has unavoidable impacts to streams determined to be jurisdictional by the ACOE under the CWA, the following permits and certification will be required.

Section 404 Permit and Section 401 Certification

For discussion of the Section 404 permit and Section 401 certification processes, see **Chapter 4.12** above. The process for jurisdictional wetlands and surface waters/streams is the same. Given the area of stream impacts under the Proposed Action and Proposed I-68 Commerce Park site, an Individual Section 404 Permit will be required.

Section 402 NPDES Permit

Because the Proposed Action and Proposed I-68 Commerce Park site has the potential to discharge pollutants into waters of the United States through a point source, a NPDES permit will need to be obtained. A requirement of NPDES permits, for both operations and construction activities, is development of a Storm Water Pollution Prevention Plan (SWPPP). A SWPPP outlines how stormwater run-off, erosion, and sediment will be controlled in order to minimize polluted stormwater run-off into nearby waters.

Table 4.7 • Stream Impacts⁶⁵

Stream ID	Stream Category	Stream Impacts (LF)
Proposed Action: Morgantown Airport Runway Extension		
S-01	Intermittent	1,558.5
S-01A	Ephemeral	0
S-02	Intermittent	0
S-03	Intermittent	0
S-04	Intermittent	18
Wolfe Run	Perennial	886.6
S-SQS-01	Ephemeral	894.3
S-12	Ephemeral	131.5
S-13	Intermittent	138.7
S-14	Ephemeral	58.5
S-15	Ephemeral	0
AIRPORT STREAM IMPACT SUBTOTAL		3,686.1 LF
Connected Action: Proposed I-68 Commerce Park Streams*		
S L2 03A	Ephemeral	0
S L2 05	Ephemeral	0
S L2 06	Ephemeral	194.1
S L2 07	Ephemeral	0
S L2 08	Perennial	0
S L2 09	Ephemeral	0
S L2 10	Ephemeral	0
S L2 11	Ephemeral	0
S L2 12	Ephemeral	0
LDG S-01	Perennial	744.2
PROPOSED I-68 COMMERCE PARK STREAM SUBTOTAL		938.3 LF
TOTAL		4,625 LF

* Although preliminary calculations using grading plans determined impacts would only occur to S LS 06 and LDG S-01 resulting from the Proposed Action or Proposed I-68 Commerce Park site, other systems are located within close proximity of the proposed borrow areas and therefore may experience temporary impacts. As the project moves into the design phase, impact analyses will be refined prior to submitting permit applications to regulatory agencies.

⁶⁵ As detailed design continues, the relocation of Wolfe Run Road may not be required as part of the Proposed Action thereby reducing stream impacts.

4.12.2.1 Significance Determination

For FAA, a significant impact to surface waters and streams exists if the action would:

- Exceed water quality standards established by Federal, state, local, and tribal regulatory agencies, or
- Contaminate public drinking water supply such that public health may be adversely affected.

In addition, the current AMD from the existing coal/GOB will be reduced or eliminated as a result of removal of the coal/GOB, thereby improving the overall water quality in the surrounding area. Based on the criteria above and implementation of the mitigation measures listed below, impacts under the Proposed Action and Proposed I-68 Commerce Park site would not be considered significant.

4.12.2.2 Mitigation

Examples of potential measures to mitigate impacts to surface waters under consideration include:

- Limiting ground disturbance to the areas necessary for project-related construction;
- Employing erosion control measures to minimize sedimentation of surface waters;
- Restoring vegetation on disturbed areas to prevent soil erosion following project completion;
- developing oil response plans designed to contain any potential spills of oil or oil-based products associated with the Proposed Action, and/or
- Section 404 and 401 permit terms and conditions for minimizing and compensating for impacts to surface waters.

The project area is located within the Outlet Deckers Creek watershed (HUC 050200030202) and the West Run Monongahela River watershed (HUC 05020030309). Deckers Run and West Run were identified on the West Virginia impaired stream list (303d) for pH pollutants and watershed based clean-up plans have been developed for both. The preliminary stages of this project include the removal of the remnants of the onsite coal seam. Removal of the coal and coal waste will eliminate the site's source of AMD in these watersheds and the need of site passive and active AMD treatments facilities.

Because the Proposed Action and the Proposed I-68 Commerce Park site will impact surface waters through dredged or fill material (e.g., rerouting a stream), mitigation will be required under the CWA as part of the Section 404 permit process. Similar to wetlands, mitigation for impacts to streams were assessed and calculated using the SWVM (**Appendix J**). The metric scored channels and found a debit unit score to use for proposed stream mitigation. The total debit score for the stream impacts is 2,534.8 units for the 4,624.4 linear feet of stream.

The proposed stream mitigation will have to create a credit of 2,534.8 units and will include the restoration of S-01 using natural stream design, along with adjacent wetland systems to enhance

habitat riparian zones. Currently, S-01 is located in a system of rock gutter cells which appear to be an AMD passive treatment system. After the AMD source is removed, S-01 can be designed to mimic a natural channel using Rosgen natural stream design. Native materials including trees and rock/boulders will be used to construct any in stream structures (vanes, rootwads, etc.) as much as possible. Additional natural channel design techniques that can be utilized include the creation of a bankfull bench and low-flow channel, the use of rootwads to protect the banks until vegetation becomes established and the addition of log or rock structures to restore aquatic habitat functions. The stream banks and riparian zones will be planted with native shrubs and trees to improve water temperature and add detritus material for food chain production and improved habitat.

Specific details regarding mitigation will have to be approved by the ACOE and WVDEP during the permit application review.

4.12.3 Groundwater

Groundwater would not be directly impacted under the No Action Alternative. However, the City's continued reliance on passive and active AMD treatment facilities would be required as well as potential leaching from the existing abandoned mine into groundwater sources.

The Proposed Action and Proposed I-68 Commerce Park site will involve the addition of fill material to the southern portion of the project area, regrading of the northern portion of the study area, and excavation within the borrow areas of the Proposed I-69 Commerce Park. Maximum excavation depths are expected to range from 55 feet bgs and 78 feet bgs within the borrow area. Based on the review of USGS groundwater publications discussed in **Chapter 3.0**, groundwater used for consumption likely exists below the lower limit of excavation. Therefore, impacts to deeper groundwater resources within deep confined aquifer systems are not anticipated. In addition, most of the residential areas within the project area are served by a public drinking water source.

However, recharge of shallow groundwater may be affected by the addition of impervious pavement for the Proposed Action and the Proposed I-68 Commerce Park site. Additionally, shallow groundwater flow and springs located on the rural/residential properties southeast of the runway extension may potentially be impacted by the regrading of the area around the completed new section of runway. Shallow groundwater resources may also be impacted if petroleum leaks or spills occur from refueling of construction vehicles during the construction phase.

4.12.3.1 Significance Determination

According to the FAA, a significant impact to groundwater resources exists if the action would:

- Exceed water quality standards established by Federal, state, local, and tribal regulatory agencies;

- Contaminate groundwater used for drinking water such that public health may be adversely affected, or
- Create a reduction of surface water infiltration and groundwater recharge due to the addition of impervious surfaces.

Based on the criteria above and implementation of the mitigation measures listed below, impacts under the Proposed Action would not be considered significant.

4.12.3.2 Mitigation

Examples of potential measures to mitigate impacts to groundwater under consideration include:

- Limiting ground disturbance to the areas necessary for project-related construction;
- Restoring vegetation on disturbed areas to prevent soil erosion and to restore surface water infiltration following project completion; and/or
- Developing oil response plans designed to contain any potential spills of oil or oil-based products associated with the Proposed Action and Proposed I-68 Commerce Park site.

West Virginia Codes §22-11 and §22-3 establish hydrologic and water quality protection practices to protect groundwater. Under these groundwater rules, coal mining and construction operations are required to implement a groundwater protection plan (GPP) to reduce or eliminate adverse impacts to the groundwater. Prior to construction, a GPP would identify all significant potential groundwater impacts and would allow for the potential impacts to be managed by appropriate best management practices. In addition, stormwater should continue to be managed by appropriate best management practices intended to prevent and/or minimize the potential for groundwater contamination.

Mitigating measures are not proposed for groundwater resources within deep confirmed aquifer systems, as no significant deep groundwater impacts are anticipated.

4.13 Secondary Impacts

This section describes the potential secondary (induced) impacts of the Proposed Action and the No Action Alternative. Airport projects may cause some level of secondary effects. Those effects may be beneficial or adverse. Examples of beneficial and adverse effects include:

- Beneficial Effects: Buying construction and operating supplies from local vendors; offering permanent and part-time jobs to local citizens; and providing an economic multiplier effect from spending by the increased number of visitors to the area via the airport.
- Adverse Effects: Placing increased demands on local emergency, school, or police services due to sudden influxes of transient workers; or causing changes in population patterns that reduce local tax bases.

FAA Order 1050.1F does not provide a significance threshold for secondary (induced) impacts. Instead, the Order states that induced impacts will normally not be significant except where there

are also significant impacts in other categories, especially traffic congestion, noise, land use, or direct social impacts.

The temporary, minor increase in construction-related traffic would not result in a significant impact on local roads. While traffic volumes on roads adjacent to the airport are anticipated to increase, this increase is not expected to result in reduced levels of service.

Under the Proposed Action and Proposed I-68 Commerce Park site, construction activities including land clearing, removal of the coal seam, extension of the runway on new fill, and the leveling of future development sites for the MCDA's I-68 Commerce Park would create alterations of the visual environment. However, the runway embankment will be predominantly planted with low-growing vegetation with some use of rock for slope stabilization. The extracted coal seam areas will be graded, vegetated, and left for development for the I-68 Commerce Park.

Additional flights associated with the Proposed Action would not cause significant air quality, noise, or land use compatibility impacts to the construction or operation of the airport. The Proposed Action would not increase other activities that could potentially add to direct or indirect impacts in these areas (e.g., increased vehicular emissions causing a significant air quality impact). Therefore, a significant secondary (induced) impact would not occur.

Under the No Action Alternative, the induced economic benefits resulting from the runway extension would not be realized. The No Action Alternative would not create or induce significant adverse air quality, noise, or land use impacts and the abandoned coal seam would continue to contaminate water resources.

5.0 CUMULATIVE IMPACTS

The CEQ Regulations define a cumulative impact as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions” (see 40 CFR § 1508.7). Cumulative impacts can be viewed as the total combined impacts on the environment of the proposed action or alternative(s) and other known or reasonably foreseeable actions.

The incremental impact of the Proposed Action when added to other past, present, and reasonably foreseeable future actions, is an important consideration in the environmental assessment process. Therefore, analysis of the cumulative impact of the Proposed Action and the consequences of subsequent related actions is required to determine the significance of potential impacts on the environment.

Spatial and temporal boundaries were evaluated to determine the areas and projects within those areas the cumulative analysis would address:

- The spatial area used for assessing cumulative impacts includes the surrounding Morgantown area, the proposed runway/taxiway extension, Runway Safety Area, Relocated Airport Access Road, relocated Wolfe Run Road, and the Proposed I-68 Commerce Park site.
- The temporal scope reflects different time periods relevant to conditions for past, present, and reasonably foreseeable future projects. Past actions include actions that occurred in or before 2012 (i.e., prior to *2012 Master Plan Update*), present actions include projects currently occurring and future actions occurring beyond the 2028 (five years after construction of the Proposed Action).

5.1 Past, Present, and Reasonably Foreseeable Future Actions

Past, present, and reasonably foreseeable future actions at the Airport and related to the Airport are identified in several documents, including:

- West Virginia Army National Guard’s (WVANG) *Final Environmental Assessment for the Construction of the Morgantown Readiness Center*, Revised 2009.
- FAA’s 2010 *Final Environmental Assessment and Finding of No Significant Impact - Conversion of Runway 5-23 to a Taxiway and the Request for FAA Land Release at Morgantown Municipal Airport*.
- Morgantown Municipal Airport’s *2012 Master Plan Update*. The planned improvements are to be implemented in phases over the course of the next 20 years (see **Table 5-1**).

- The MMMPO's 2012 *Long Range Transportation Plan* has several roadway improvement projects planned near the Airport.⁶⁶ These roadway improvements are identified on **Exhibit 5-1**.
- FAA's 2014 *Morgantown Municipal Airport: Proposed Release of Landside Development Area – Environmental Assessment*, which includes a full discussion of cumulative impacts for the Proposed I-68 Commerce Park.
- The MMMPO's *Transportation Improvement Program (TIP): FY 2016 – FY 2021 (Draft)*. This TIP includes relocating and widening Mileground Road (US 119), from Cheat Road (Route 857) to Donna Avenue, as well as improving the intersection of Mileground Road and Cheat Road.
- *City of Morgantown 2013 Comprehensive Plan*. The Comprehensive Plan identifies other transportation related improvements planned in and within the vicinity of Morgantown. As of January 2018, this is the latest Comprehensive Plan for the City.

Past and Present Actions

According to the *MGW 2012 Master Plan Update*, past actions that have occurred at the airport include:

- Taxiway C south ramp rehabilitation (2007)
- Ramp Lighting, runway lighting and signage upgrades (2007)
- Passenger terminal building renovations (2008)
- Runway 36 RSA Improvements (2005)
- Fixed Base Operator office renovations (2010)
- Closure of Runway 5-23 and Conversion to Taxiway D (2012)

Morgantown's population has increased at a fairly rapid pace over the past 20 years, adding more than 28,000 residents since 1992. The past trend of population increase has led to some degree of increased development and redevelopment in the area.

Within the surrounding areas of the MGW, the majority of undeveloped land is currently either owned by WVU or constrained by topography or floodplain areas. Land within the city limits of Morgantown is mostly built-out with very little undeveloped land. Topography is particularly an obstacle for development of industrial uses and large format commercial centers, which require generous sites and space for large footprint buildings. One development project recently completed at MGW is the WVANG's Morgantown Readiness Center located east of MGW. Completed in 2015, this 58,000-square foot facility serves as a hub for both current and future National Guard training activities. Other near-term projects depicted on the current approved MGW ALP include the Hangar Development Area and Hangar Area Access Road.

Transportation (surface) projects that are presently planned within the vicinity of the project area include: The Mileground Road project (see **Exhibit 5-1**), from Airport Road to Easton Elementary School, is part of an overall plan to relieve traffic congestion, improve safety and provide better access to and from the greater Morgantown area. Mileground Road WV 705 (US 119) is to be

⁶⁶ Morgantown Monongalia Metropolitan Planning Organization (MMMPO). *Long Range Transportation Plan*. "Long-Range Transportation Projects". Approved by MPO Policy Board on December 17, 2012. Page 61.

widened to four lanes from the existing intersection Hartman Run Road/Airport Boulevard/Mileground Road to the intersection of Point Marion Road (US 119)/Cheat Road Monongalia CR 857/WV 705 (US 119). Construction is anticipated to be complete in 2019.

Reasonably Foreseeable Actions

Several projects have been identified in the *MGW 2012 Master Plan Update* that will occur at the airport over the next 20 years. These actions include improvements such as runway rehabilitation, fencing, and apron expansion (**Table 5-1**).

The 2014 *Morgantown Municipal Airport: Proposed Release of Landside Development Area – Environmental Assessment* documented the release of the approximately 95.70-acre Landside Development Site, on the eastern side of MGW, between the West Virginia Army National Guard (WVARNG) Readiness Center and I-68, to the MCDA for future development of the site (**Exhibit 5-2**). MCDA would develop the site for the Proposed I-68 Commerce Park site.

The Pittsburgh Coal Seam is located under the Proposed I-68 Commerce Park site; a portion of airport property; and private land. The seam was deep mined and stripped mined from the 1900s-1960s. Currently, the abandoned mine is mostly waste coal or “GOB” material. The removal of the abandoned mine, which will occur as part of the proposed runway extension, is considered connected to the Proposed Action because the fill for the runway project will be obtained from the abandoned mine removal and construction of this site. As part of the runway extension project, MGW will obtain material for the runway extension and construction from the Proposed I-68 Commerce Park site, adjacent private property, and onsite (airport property). Acquisition of the material required for the embankment and subsequent development of the site requires the removal of the abandoned mine.

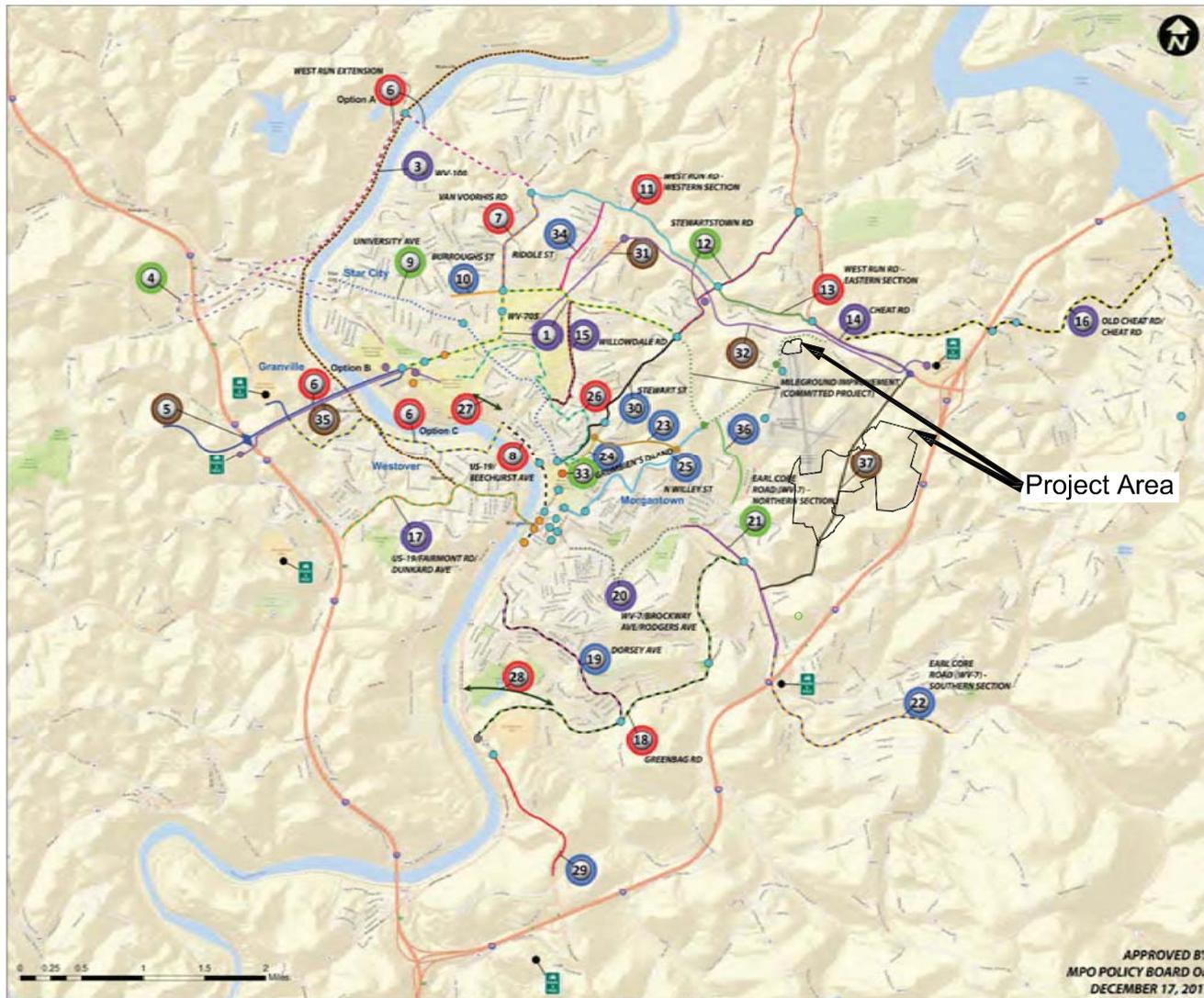
Improvements in transportation infrastructure and construction of new roads will enhance overall multimodal transportation connectivity. These improvements are proposed to address existing and projected transportation deficiencies and, when completed, would cumulatively improve Airport service efficiencies, as well as support economic development opportunities to the Airport and surrounding area. One reasonably foreseeable transportation project includes the University Avenue Intersection Project at the intersection of University Avenue (County Route 55), Collins Ferry Road (County Route 57), and Baldwin Street in the City of Morgantown. Alternatives currently being evaluated include a roundabout construction or signal/intersection reconstruction.

Table 5-1 • Past, Present, and Reasonably Foreseeable Future Actions at MGW*

Development Year	Improvement Project	Budget	Possible Funding Source
Year 1		\$1,805,000	
	Terminal Improvements and Roof Replacement	\$1,250,000	AIP
	Emergency Generator Upgrade	\$350,000	AIP
	Terminal and Gate Security Upgrades	\$50,000	AIP
	Runway 36 Extension Benefit/Cost Analysis	\$155,000	AIP
Year 2		\$12,525,000	
	Hangar Development (East Side) (all costs; design, CM, etc.)	\$7,530,000	AIP/Local
	Relocation of Taxiway A – North (all costs; design, CM, etc.)	\$3,995,000	AIP
	Runway 36 Extension EA/EIS	\$1,000,000	AIP
Year 3		\$17,651,200	
	Runway 18 RSA Improvements / EMAS Design	\$1,731,200	AIP
	Aircraft Parking Apron (East Side) (all costs; design, CM, etc.)	\$6,140,000	Federal Earmarks (FE)
	Relocation of Taxiway A – South (all costs; design, CM, etc.)	\$2,685,000	AIP
	Conventional/Corporate Hangar Development (Taxilane C) (all costs; design, CM, etc.)	\$7,235,000	AIP/Local
Year 4		\$22,910,500	
	Runway 18 RSA Improvements / EMAS Construction	\$22,910,500	AIP
Year 5		\$12,000,000	
	Runway 18 MALSR Replacement (all costs; design, CM, etc.)	\$12,000,000	AIP
Year 6	<i>We are here</i>	\$3,645,000	
	Runway 36 Extension Design	\$3,045,000	AIP
	Taxiway C Rehabilitation (all costs; design, CM, etc.)	\$350,000	AIP
	Runway 36 PAPI Installation (all costs; design, CM, etc.)	\$250,000	AIP
Year 7		\$37,059,000	
	Runway 36 Extension Construction	\$37,059,000	AIP / FE
Year 8		\$7,000,000	
	Runway 18-36 Rehabilitation (all costs; design, CM, etc.)	\$5,500,000	AIP
	Lighting and Signage Rehabilitation (all costs; design, CM, etc.)	\$1,500,000	AIP
Years 11 - 20		\$2,734,500	
	Wildlife Control Fencing (all costs; design, CM, etc.)	\$2,000,000	AIP / Local
	North Terminal Apron Expansion (all costs; design, CM, etc.)	\$734,500	AIP

Source: Morgantown Municipal Airport. *Master Plan Update: Morgantown Municipal Airport, Morgantown, West Virginia*. December 2012. Page 73.

*Note: Although these projects are assumed actions by development year at MGW (in accordance with the Master Plan), some of these projects have not occurred and may not be funded.



L RTP Projects

- | | |
|--|---|
| 1 WV 705 Corridor Improvements | 19 Dorsey Ave |
| 3 Lanesville Union Rd (WV-100) Improvements | 20 Brockway Rodgers Powell Avenue (WV-7) |
| 4 I-79/Chaplin Hill Rd US-10/Lanesville Union Rd Interchange and Access Improvements | 21 Earl Core Rd (WV-7) Northern Section |
| 5 New I-79 Interchange at Business Park Site and Connecting Roadways | 22 Earl Core Rd (WV-7) Southern Section |
| 6A West Run Extension and Lanesville Union Rd (WV-100) Connection to US-19 | 23 New Rd Connection from Willey St to Downtown Campus Area |
| 6B Roadway Connection from Near I-79 Interchange to Monongahela Blvd | 24 Protonus/Killing Run Pedestrian and Bicycle Connector |
| 6C 8th St Bridge over Monongahela River and Roadway Connection to 7th Development Area Interchange to I-79 | 25 Willey St Improvements |
| 7 Van Vorhis Rd Improvements | 26 WVU Campus Run Rapid Transit Connector |
| 8 Bechtel Ave Improvements | 27 Great Ave Bicycle Pedestrian Connector |
| 9 University Ave Improvements | 28 White Park/Carleton Trail Connection |
| 10 Barnegate St | 29 Graham Rd US-110 |
| 11 West Run Improvements - Western Section | 30 Stewart St Improvements |
| 12 Stewartstown Rd Improvements | 31 PET Extension from University Health Services to Main General Hospital |
| 13 West Run Improvements - Eastern Section | 32 PET Extension from Mary General Hospital to Glenmark Centre |
| 14 Cheat Rd Improvements | 33 Grumbert's Island Grade Separation |
| 15 Willowsdale Rd Sidewalk Improvements | 34 Riddle St Improvements |
| 16 Old Cheat Rd/Cheat Rd Blue Lanes | 35 PET Connection New Business Park to Donohue Campus |
| 17 Fairmont Rd/Holland Ave US-10 | 36 New Roadway Connection from Millgrove Rd to Hartman Run Rd |
| 18 Greenberg Rd Improvements | 37 Extension of Airport Industrial Rd to WV-7 in Suburban |
-
- | | |
|--|--|
| ● Recommended for Funding with Projected Available State and Federal Revenues | ● Tier 3 |
| ● Tier 2 | ● Tier 4 |
| ● Alternative Funding Dependent | |
-
- | |
|--|
| ● Priority Safety Improvements Location |
| ● Priority Pedestrian Crossing Improvements Location |
| ● PET Station |

LONG RANGE TRANSPORTATION PLAN
DRAFT PROJECTS

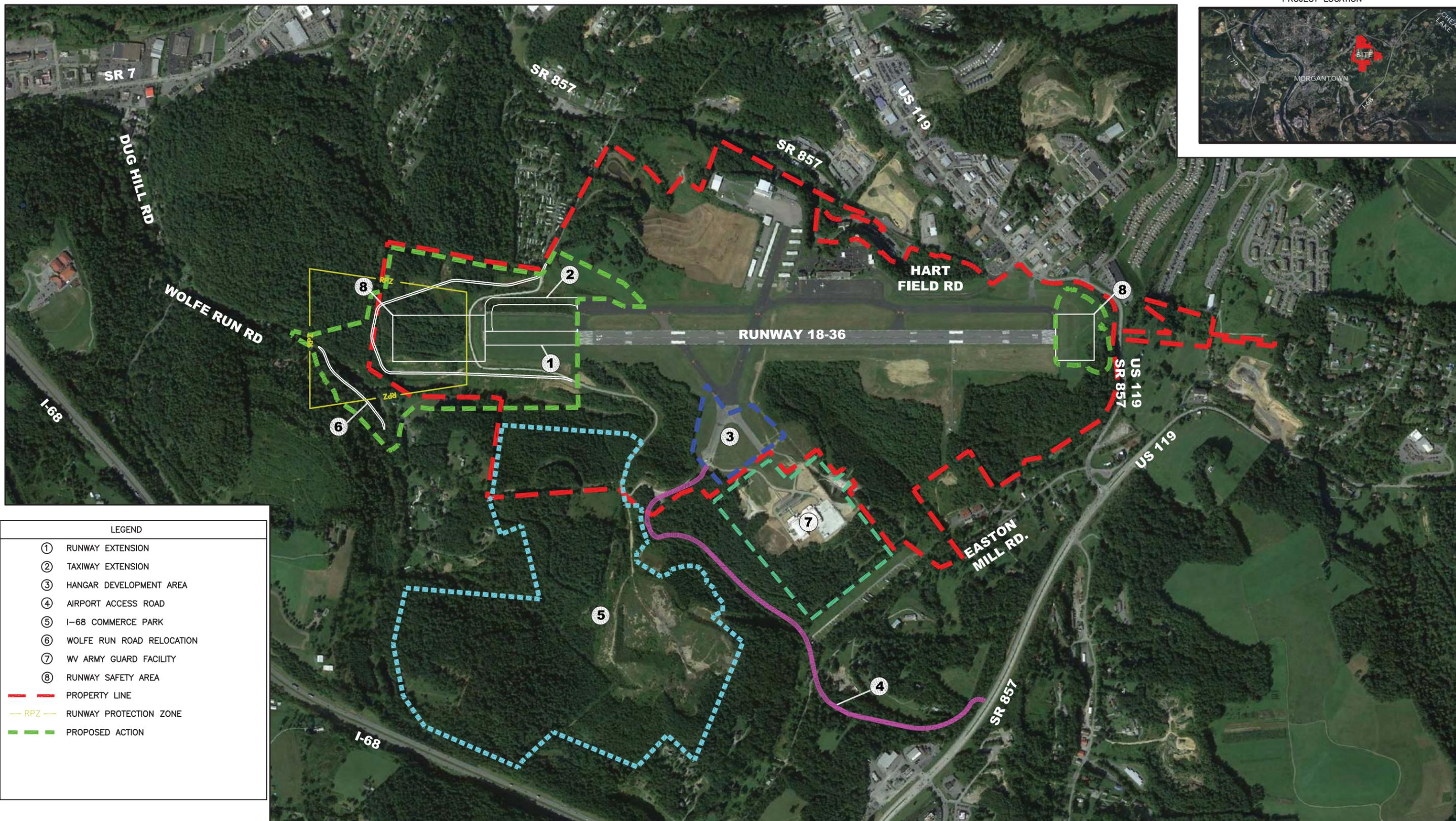


Morgantown Municipal Airport
Environmental Assessment

Exhibit 5-1
Long Range Transportation Plan



Michael Baker
INTERNATIONAL



LEGEND

- ① RUNWAY EXTENSION
- ② TAXIWAY EXTENSION
- ③ HANGAR DEVELOPMENT AREA
- ④ AIRPORT ACCESS ROAD
- ⑤ I-68 COMMERCE PARK
- ⑥ WOLFE RUN ROAD RELOCATION
- ⑦ WV ARMY GUARD FACILITY
- ⑧ RUNWAY SAFETY AREA
- — — — — PROPERTY LINE
- — — — — RPZ RUNWAY PROTECTION ZONE
- — — — — PROPOSED ACTION



5.2 Cumulative Impact Assessment

5.2.1 Air Quality

In the past, air quality has clearly been adversely affected as a result of human activities and development. Application of federal and state emissions regulations and significant technological improvements aimed at reducing effects on air quality have acted to aid in reducing emissions caused by population and development growth.

MGW is located in an area that meets all the NAAQS and the emissions generated in Monongalia County have not been found to significantly contribute to the exceedance of any of NAAQS in adjoining regions. As such the area in and surrounding Morgantown is classified as attainment for all pollutants and air quality conformity requirements as defined under the CAA do not apply.

There will be no adverse impacts as a result of the Proposed Action, No Action Alternative or the Proposed I-68 Commerce Park site. Compared to the overall direct emissions resulting from coal combustion in West Virginia, the amount of criteria pollutant emissions emitted from the coal burning associated with the project is negligible. While general conformity is not applicable to this project, emissions are below the *de minimis* levels for general conformity for both operations and construction emissions. In addition, reasonably foreseeable future surface and air transportation projects are subject to the requirements to assess air impacts and demonstrate air quality conformity. Construction of other current and future projects would result in short-term and temporary emissions, resulting from construction equipment and activities, but they are not expected to exceed NAAQS thresholds. Therefore, the overall cumulative impact to air quality resulting from the Proposed Action, Proposed I-68 Commerce Park site, and past, present and reasonably foreseeable actions is expected to be minimal.

5.2.2 Biological Resources

Past effects to rare, threatened, or endangered species include loss of habitat from land conversion activities (forest/habitat clearing as part of development activities), mortality from development pressures or human activity. The passing of the Endangered Species Act of 1973 decreased the rate of decline of these species.

No state-listed rare, threatened, or endangered species/sensitive habitats were identified by the WVDNR. Two federally-listed species to occur in the project area: the Indiana bat (*Myotis sodalis*) and the threatened NLEB) (*M.septentrionalis*). Areas surrounding the Proposed Action are not located within known use areas for these species.

A bat habitat assessment was completed for the area of the Proposed I-68 Commerce Park site. The forested habitat throughout the property contains a large number of dead snags (i.e., partially or recently dead tree) which could provide roosting habitat for the Indiana Bat. In addition, two mine portals (Proposed I-68 Commerce Park site), one partially collapsed mine (Laurita parcel), and one mine ventilation shaft (Runway Extension) were observed but determined to not provide

winter hibernacula (i.e., place of refuge). Project-specific avoidance and minimization measures were developed for this project and included in the Bat Conservation Plan.

Due to the nature of this project, the avoidance measures incorporated into project design, and the relatively low population densities of both the Indiana bats and NLEB that are likely within the project area, the risk that individual bats or colonies of bats will be directly impacted by the project is extremely low. While the potential exists for indirect impacts to occur to the species in the form of loss of potential habitat, the amount of forested habitat remaining and the mitigation measures to be implemented during construction will limit potential negative effects on listed bats. In correspondence dated November 9, 2016 and March 15, 2018, the USFWS documented that the design and implementation of the Bat Conservation Plan would successfully avoid potential adverse effects on the bat species.

With the exception of the Proposed I-68 Commerce Park site, reasonable foreseeable actions involve either transportation or development related actions within previously disturbed/urbanized areas within the MGW property or within Morgantown. However, if other reasonably foreseeable actions should require disturbance to habitat, surveys would be required and appropriate agency coordination would be necessary to reduce the potential for cumulative impacts. Therefore, there would be no significant cumulative impact to biological resources as a result of the Proposed Action, Proposed I-68 Commerce Park site, and past, present and reasonably foreseeable actions.

5.2.3 Climate

The extent of past actions impact on climate is uncertain and not well documented. Current initiatives and studies are aimed at providing a clear context of the global effects of past actions on climate change while planning for the future.

The Proposed Action, in all likelihood, would have no impact on climate on a global scale and may actually reduce GHG emissions compared to the No Action Alternative. Past, present, and reasonably foreseeable future actions include many surface (i.e., roadway) improvements which may contribute to an increase in GHG emissions. Projects that did not provide any major changes in traffic did/will not contribute to a change in GHG emissions. However, projects involving traffic flow/added through capacity should reduce operational GHG emissions. For all projects, construction GHG emissions are primarily a result of fuel used from construction equipment.

The cumulative impact of the Proposed Action and the Proposed I-68 Commerce Park site on climate when added to other past, present, and reasonably foreseeable actions is not currently scientifically predictable. Cumulatively all actions would not significantly increase fuel consumption and GHG emission increases would not be significant. All projects would be subject to the requirements identified in statutes, regulations, and Executive Orders related to climate (Refer to **Table 3.6**).

5.2.4 Hazardous Materials, Solid Waste, and Pollution Prevention

Historical increases in airport use, development of airport facilities and surrounding develop activities resulted in additional use of hazardous and solid waste and generation of greater amounts of waste. These historical activities occurred prior to the current pollution prevention and waste disposal laws and regulations. All reasonably foreseeable actions are required to conduct environmental site assessments to identify site contamination conditions prior to construction.

Environmental databases, as well as the findings reported in the EA for the *Proposed Release of Landside Development Area* (August 2014) concluded that there are no environmental conditions that would impact the Morgantown Runway Extension Project and no known hazardous materials or waste sites on the Land Development site or within a 1-mile radius of that site.

The Pittsburgh Coal Seam is located under the Proposed I-68 Commerce Park site; a portion of airport property; and private land. The coal waste is the source of the AMD of the tributary that collects the site. Removing the remaining coal and GOB will decrease, if not eliminate the current AMD at the site.

Construction of the Proposed Action, the Proposed I-68 Commerce Park site, and reasonably foreseeable actions would result in a short-term, temporary increase in the use of asphalt and an increase in the use of gasoline and diesel fuels by construction equipment. However, design specifications would include provisions for appropriate handling of these materials.

There would be no significant cumulative impact to hazardous waste, pollution prevention, and solid waste management as a result of the Proposed Action, the Proposed I-68 Commerce Park site, and the past, present and reasonably foreseeable actions.

5.2.5 Historical and Archaeological Resources

The extent to which historic and archaeological resources were impacted based on past actions is unknown. It is assumed that some of these resources were disturbed due to development pressures in the area. Several pieces of legislation and initiatives have been established, such as the National Historic Preservation Act of 1966 that assists in the preservation of historic properties and other historical and cultural places of importance.

There are no historical resources within the APE for the Proposed Action that are listed or eligible for listing in the NRHP. Site 46MG312, the Laurita Site, is a mid-to-late nineteenth century homestead that has the potential to provide significant information about mid-nineteenth to late nineteenth century farmsteads. However, ground disturbance will be avoided in this area and therefore the Proposed Undertaking would have no effect on this resource. On May 2, 2016 the SHPO concurred with this determination. Three additional archaeological sites, 46MG313, 46MG324, and 46MG325 were determined not eligible for inclusion in the NRHP and no further work is necessary. The SHPO concurred with these determinations on May 2, August 23, September 19th, 2016 and March 1, 2018 (Respectively).

Other reasonably foreseeable actions, specifically air and transportation projects, may have the potential to impact historic and archaeological resources in the area. Coordination with the SHPO would be required to ensure that no resources are impacted, or if the potential for resource impact exists, the projects would be in compliance with Section 106 of the NHPA.

There would be no overall significant cumulative impact to historic and archaeological resources as a result of the Proposed Action, Proposed I-68 Commerce Park site, and past, present, and reasonably foreseeable actions.

5.2.6 Noise and Compatible Land Use

Past actions may have had impacts on noise if the project resulted in an increase in operations or capacity (vehicular or aviation), change in time of operations (e.g., additional night operations), or a change in the location/vicinity of the operations relative to a noise sensitive land use.

All land uses are normally considered compatible with noise levels of less than 65 DNL. Noise sensitive land uses such as residences, schools, nursing homes and churches are generally considered incompatible with noise levels of 65 DNL or greater. Land use surrounding MGW consists primarily of commercial mix use, high density residential, school, low density residential, forest, and rural areas.

Under the Proposed Action, there are no individuals or noise sensitive land uses that would be exposed to sound levels 65 DNL or greater. Additionally, no individuals or noise sensitive land uses would receive noise increases of 1.5 dB or greater and therefore, the Proposed Action would not create a significant noise impact. Other reasonably foreseeable air/transportation projects may result in additional noise impacts. Federally funded transportation projects are required to be assessed for potential noise impacts. If noise impacts are identified, mitigation analysis would be conducted. As a result, no significant cumulative impacts are anticipated due from the Proposed Action, Proposed I-68 Commerce Park site and past, present, and reasonably foreseeable actions.

5.2.7 Socioeconomics, Environmental Justice, and Children's Health and Safety Risks

It is unknown the degree to which past actions increased environmental health and safety risks or exposure of environmental contaminants to children in the surrounding community. In general, types of impacts may have included: residential/business acquisitions and relocations, disruption of established communities and planned developments, and disruption of local transportation patterns. However, Executive Order 12898 (1994) was established to address and identify disproportionately high and adverse actions on minority and/or low-income populations.

The Proposed Action requires the displacement of seven (7) residences. While impacts to the low-income population are considered disproportionately high and adverse, mitigation and enhancement measures and offsetting benefits are possible. A review of available sale and rental property within the vicinity of Morgantown indicated properties are available for displaced

residents. Any reasonably foreseeable transportation project would require mitigation in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970.

Because no adverse impacts to air quality, sensitive noise receptors, or water quality are anticipated as a result of the Proposed Action, no disproportionately high health and safety risks are anticipated to children, low-income and/or minority populations. In addition, the current AMD from the existing coal/GOB will be reduced or eliminated as a result of removal of the coal/GOB; thereby, improving the overall environmental health of the community.

The Proposed Action and past, present, and reasonably foreseeable actions are not anticipated to result in cumulative impacts or adverse impacts on the socioeconomic conditions of the area including issues of environmental justice and children's health and safety.

5.2.8 Visual Effects (Including Light Emissions)

Visual effects in the past would have occurred when development resulted in changes to the viewshed of the area and/or introduction of new light emission sources.

The existing viewshed of the project area is primarily commercial and residential development and open space including large expanses of forested and rural areas. Construction of the Proposed Action would result in both temporary and permanent visual impacts. Temporary impacts would include the visibility of construction activities from surrounding land uses. Permanent impacts are the conversion of undeveloped land to a developed environment for both the runway extension and the Proposed I-68 Commerce Park site. Other reasonably foreseeable actions would include grading and alteration of the landscape that is anticipated to be compatible with the existing setting. However, the effect would be minimal since the majority of the actions would be "at-grade", reflecting typical surface transportation designs. The movement of vehicles or aircraft would not present a substantial visual change in the area.

The Proposed Action will increase the light emissions due to the additional light installation for the runway extension. However, the additional lights are not anticipated to have a significant impact on the surrounding areas due to the elevated location of MGW. Reasonably foreseeable actions have the potential to create temporary and permanent sources of additional light emissions. However, these projects would not result in light emissions that would be considered substantially different than the current surrounding environment. Therefore, there would be no significant cumulative impact to visual resources as a result of the Proposed Action and past, present, and reasonably foreseeable actions.

5.2.9 Water Resources

Past pressures to fill area wetlands, impact streams and burden groundwater have occurred over the last few decades, as demand increased and development has occurred throughout the region. Other past pressures and stresses to water resources resulted from agricultural runoff,

stormwater runoff, and sediment/siltation. Since the enactment of the Section 404 of the Clean Water Act (1972), impacts to streams and wetlands are regulated and, if required, mitigated.

Under the Proposed Action, unavoidable impacts would occur to wetlands, streams, and groundwater. However, overall impacts to these resources are not considered significant. Wetland/stream mitigation measures would be carried out through the conditions and terms of the Section 404 permit (See **Section 4.12.1.1**). In addition, removal of the abandoned mine and AMD would have a positive impact on water resources. Reasonably foreseeable actions may result in impacts to water resources and would be subject to its own permit requirements and mitigation commitment(s), as applicable.

The reasonably foreseeable development actions may result in wetland impacts; however, their impacts would be independent of the airport project and its mitigation commitment. Each of the actions would be subject to its own permit requirements and mitigation commitments, as applicable. The cumulative impact of incremental wetland loss within the affected drainage basin is periodically evaluated by WVDEP and ACOE. If these agencies determine that the issuance of permits for filling in wetlands is cumulatively impairing wetlands to an unacceptable level, then it is the agencies' responsibility to revise the permit program to be more restrictive. There is currently no evidence that the permit program would be made more restrictive in the foreseeable future.

There would be no significant cumulative impact to water resources as a result of the Proposed Action and past, present, and reasonably foreseeable actions.

6.0 PUBLIC INVOLVEMENT AND AGENCY CORRESPONDENCE SUMMARY

Public and agency involvement is important to ensure that information is provided to the general public and agencies as federal actions are being considered. Engagement with the general public, planning officials, and environmental and regulatory agencies is described in the following sections. **Appendix B and C, Agency Correspondence** and **Public Involvement** includes materials related to the public involvement process.

6.1 Scoping

In accordance with NEPA, a scoping process was conducted to aid in the identification of scope of impacts to be addressed and those related to the Proposed Action. The purpose of scoping is to allow federal, state and local agencies, Native American Tribes, members of the community, and the general public an opportunity to participate in the project planning process.

In September 2015, public agencies and Native American Tribes were notified of the proposed project and solicited input. A representative scoping letter is included in **Appendix B**. Subsequently, in January 2016, public input was solicited from property owners within the vicinity of the airport (**Appendix C**).

6.2 Public Outreach Efforts

In addition to soliciting project input from the distributed scoping letters, several public outreach activities were conducted in February 2016 to engage the public and solicit feedback (**Appendix C**). These include:

- City of Morgantown – Incorporation in February 2016 Newsletter
- Notification on City of Morgantown Website
- Distributing/Posting hardcopy public notifications of the proposed project at the library, Health Department and lobby of City Hall
- Review of project with various land owners in the surrounding area
- Involvement and updating surrounding municipalities and West Virginia University

Since 2016, additional project updates have been reported in local media outlets providing updates on the project status, including:

- The Dominion Post (March 9, 2017)
- The Daily Athenaeum (September 27, 2017)

6.3 One-on-One Property Owner Meetings

Targeted outreach with property owners directly impacted by the Proposed Action has occurred throughout the planning process. One on one meetings were held with the representatives of Airpark LLC including a detailed review of the preliminary excavation plan. In June of 2016, one-on-one property owner meetings were held with seven of the affected property owners that would

be directly impacted by the Proposed Action (i.e., property acquisition). A summary of the comments received at these meetings is located in **Appendix C**. A one-on-one meeting with the property owners of the Laurita Parcels was not held in June 2016; however, these property owners were involved in the Runway Development Committee Meetings for the project (See Section 6.6 for additional details). In general, the impacted property owners expressed concern over losing their property as well as the condition of the Wolfe Run Stream and water contamination. Following the June 2016 property owner meetings, an additional field review meeting was conducted on-site with one owner. Concerns expressed during this field meeting were related to the Wolfe Run Road relocation as well as contamination of Wolfe Run. Counsel for the MCDA has had several follow up meetings with some of the affected property owners and other meetings with additional nonaffected property owners in the area. In 2017 the City and MCDA met with each of the affected property owners and obtained access permission agreements from them to allow the engineers, appraisers and necessary personnel on to each of their properties. A full explanation of when and how access would occur and that no access would occur without prior contact with the owners.

The City of Morgantown and the MCDA will continue to communicate with affected property owners as it refines the design of the Proposed Action. They will update property owners after key milestones, such as the completion of this environmental study as well as completion of final design.

6.4 Aviation Community Outreach

In November 2017, detailed surveys were conducted to ask existing and potential users of MGW what their current limitations are on the existing runway, preferred runway lengths, and future cooperate jet activity should the runway be extended. Survey respondents indicated the existing runway length is influencing business decisions, difficult to fly direct flights, inability to take full payload, and generally resulted in various missed opportunities. In general, the response was favorable for a runway extension.

An additional survey was conducted to determine the potential for additional athletic charters to operate at MGW with an extended runway. This survey was conducted with West Virginia University Athletics as well as other universities in the Big 12 Conference.

Results from both surveys are documented in **Appendix K**, Runway Justification Study (January 2018).

6.5 Agency Notification and Coordination

Coordination with various public agencies to assess the environmental impacts of the Proposed Action was undertaken throughout the development of the Draft EA.

These agencies include:

- West Virginia Department of Environmental Protection
- Monongalia County Development Authority

- Monongalia County Planning Commission
- City of Morgantown
- West Virginia Division of Natural Resources
- West Virginia Division of Water and Waste Management
- West Virginia Division of Culture and History
- City Council of Morgantown
- US Environmental Protection Agency
- US Fish and Wildlife Service
- US Army Corps of Engineers
- US Department of Agriculture
- US Airforce Reserve

6.6 Runway Extension Development Committee Meetings

Beginning in December 2015 through present (April 2019), monthly meetings of the Runway Extension Development Committee have been held. Members of this committee include representatives from MGW, the City of Morgantown, MCDCA, County Commissioners and interested stakeholders (e.g., Laurita property owners). The intent of these meetings are to keep up to date on project happenings and review next steps in the planning process and will continue into design and ultimate construction.

6.7 EA Review and Public Workshop

The 30-day public comment period for the EA began with the notice of availability of the Draft EA on May 22, 2019, with comments due on or before July 7, 2019. The EA was distributed to federal, state, and local agencies; West Virginia State Senators and delegates; City of Morgantown representatives; and Native American tribes. The affected property owners were notified via a letter dated May 20, 2019 of the Draft EA availability and upcoming public workshop. A legal notice was also placed in *The Dominion Post* on May 22, 2019 (**Appendix C**).

A public workshop was held for the project on June 25, 2019 at the Morgantown Municipal Airport. Five members of the public attended the meeting (**Appendix C**). No written comments were received from the public. Agency comments were received from the WVDEP, USFWS, Delaware Nation, and West Virginia Division of Culture and History. None of the aforementioned agencies had any comments that would result in changes to the Draft EA (**Appendix B**).

7.0 LIST OF PREPARERS

	Federal Aviation Administration	Matthew DiGiulian, Manager Beckley ADO Susan Stafford, Env. Protection Specialist Beckley ADO	Principal Reviewers
	City of Morgantown Morgantown, WV	Paul Brake, City Manager	Project Management; Overall Document Review
Michael Baker INTERNATIONAL			
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Jennifer Martin, CEP	Document Management, Technical Writing, Cumulative Impacts	17	MS, Environmental Sciences and Policy BS, Environmental Analysis and Planning
Raymond Maginness	Technical Writer	37	MA, Environmental Management BS, Environmental Science
Susan Manes	Socioeconomics, Cumulative Impacts, Public Outreach	30	MS, Parks, Recreation, Tourism Management BA, Economics
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Robert D'Abadie	Air Quality and Climate	24	MS, Civil Engineering BS, Civil Engineering
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Michael Kotlow	Fleet Forecast	14	BA, Urban and Community Studies
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Keith Bastianini	Archaeological Resources	33	BA, Anthropology Doctoral Studies
Timothy Zinn	Historic Resources	31	MA, Historic Preservation, BS, Accounting/Computer Science

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