



Short Form Environmental Assessment

**FEDERAL AVIATION ADMINISTRATION
MEMPHIS AIRPORTS DISTRICT OFFICE**

**NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF AVIATION**

**TENNESSEE DEPARTMENT OF TRANSPORTATION
DIVISION OF AERONAUTICS**

Airport Name: Memphis International Airport (MEM)
Proposed Project: UPS-Oakhaven Hub Facility Expansion
Date Submitted to FAA/SBG: _____

This environmental assessment becomes a Federal document when evaluated, signed, and dated by the Responsible FAA/SBG Official.

Responsible FAA/SBG Official

Date

General Information and applicability

This Short Form Environmental Assessment (EA) is to be used only for federally obligated airports within the boundaries of the Federal Aviation Administration (FAA) Memphis Airports District Office (KY, NC, and TN). Prior to preparing any NEPA documentation, including this form, contact the MEM-ADO/SBG Environmental Protection Specialist or designated staff responsible for NEPA compliance for the subject airport to determine the level of documentation needed. Completed documentation without prior FAA/SBG concurrence may result in approval delays or rejection of NEPA documentation.

The Short Form EA is intended to be used only when the following conditions are met: (1) the federal action cannot be categorically excluded (CATEX) because of involvement with extraordinary circumstances or because the action is not consistent with any CATEX described in FAA Orders 1050.1F or 5050.4B (or subsequent versions), (2) impacts from the federal action would be limited to one extraordinary circumstance, (3) the federal action would not create significant impacts to any environmental category unless it is mitigated to the point of non-significance, (4) the action is not considered controversial. Note that in certain cases the FAA/SBG may elect to prepare a full EA even if these conditions appear to be met.

Steps for completing Short-Form EA

This form is intended to comply with FAA requirements for satisfying NEPA. The preparer should be familiar with NEPA, CEQ, and FAA laws, requirements, and policies, including, but not limited to, FAA Orders 1050.1F and 5050.4B (or subsequent versions).

The short form is formatted into three sections. Section I covers general information on the proposed action as well as information and certification from the preparer and airport sponsor. Section II addresses the purpose and need statement and alternatives. Section III covers affected environment and environmental consequences. All sections must be addressed for the form to be considered complete. The level of information needed to address each section is dependent upon the project and extent of impacts. However, for Section III, responses should provide enough information to allow the reviewer(s) to conclude there is no impact or no significant impact. A graphic depiction of the proposed action must be attached to the form. The use of additional graphics, pictures of the study area, and appendices is recommended and may be required pending upon the proposed action and environmental impacts.

As previously mentioned, Section III addresses the affected environment and environmental consequences. If the proposed action does not impact a particular resource, provide a brief explanation for why there is no impact. If the proposed action does impact a resource, describe the affected environment for the resource before discussing environmental consequences. For all resources, consider impacts caused by construction and post-construction activities. Also consider direct and indirect impacts. Cumulative impacts must be addressed in Section III (O).

Helpful factors that should be considered as part of the assessment and internet websites are listed below each resource section. The factors to be considered and websites provided are not intended to be a comprehensive list. Additional factors and sources should be reviewed as needed. Consultation with resource agencies, field analysis, or computer modeling may be required to aid the FAA/SBG in determining the extent of impacts. The preparer should contact the MEM-

ADO/SBG representative to determine the level of agency coordination, field analysis, and modeling needed.

Although multiple variations exist for adequately completing the NEPA process, the MEM-ADO recommends following the generalized steps below for Short-Form EAs:

1. Finalize planning process
2. Conduct preliminary environmental analysis
3. Obtain concurrence from MEM-ADO/SBG on use of this form
4. Conduct agency scoping, field analysis, and modeling as needed
5. Complete draft short form EA
6. Submit draft EA to MEM-ADO/SBG
7. Revise draft EA as needed
8. Obtain concurrence from MEM-ADO/SBG to initiate public involvement
9. Make draft EA available to public and issue public notice
10. Hold public meeting (if required)
11. Revise draft EA as needed
12. Submit final draft EA to MEM-ADO/SBG
13. Receive FONSI
14. Issue public notice for availability of final EA and FONSI

Completion of the Short Form EA will permit the FAA/SBG to issue one of the following determinations: (1) issue a Finding of No Significant Impact (FONSI), (2) request that a full EA be prepared, (3) request that an Environmental Impact Statement (EIS) be prepared.

Section I

1. Airport and Project Information:

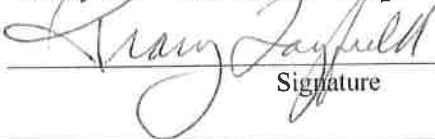
Airport Name and Three Letter Identifier: Memphis International Airport (MEM)
Airport Address: 2491 Winchester Road
City: Memphis County: Shelby State: Tennessee
Project Name: UPS-Oakhaven Hub Facility Expansion
Estimated Start Date: 2020 Estimated Completion Date: 2021 (construction estimated to last 9 months)

2. Preparer Information:

Name: Tracy Layfield
Title: Senior Scientist
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E-mail: tlayfield@eaest.com

Preparer Certification

I certify that the information I have provided in this document is, to the best of my knowledge, correct.


Signature

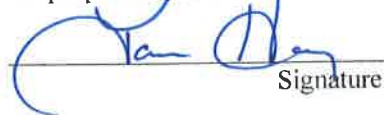
11-20-2019
Date

3. Airport Sponsor Information:

Name: James Hay
Title: Director of Development
Organization: Memphis-Shelby County Airport Authority
Address: 2491 Winchester Road, Suite 113
City: Memphis State: Tennessee
Telephone: 901-922-8224
E-mail: JHay@flymemphis.com

Airport Sponsor Certification

I certify that the information I have provided in this document is, to the best of my knowledge, correct. I also recognize and agree that no construction activity, including but not limited to site preparation, demolition, or land disturbance, shall proceed until the FAA/SBG issues a final environmental decision for the proposed action described in this document.


Signature

11-20-2019
Date

Section II

1. Provide purpose and need statement.

United Parcel Service (UPS) currently leases approximately 120 acres from the Memphis-Shelby County Airport Authority (MSCAA). Within this property UPS maintains a package distribution facility adjacent to the Memphis International Airport (MEM). UPS handles package/parcel shipping and receiving operations. On-site operations include customer service, package drop-off and pick-up, loading and unloading of trailers, and package sorting. Existing operations also includes the landing of three to four aircraft daily. UPS actively conducts operations in 100 of the 120 acres and the balance of acres is a former residential area. The proposed project is to expand the UPS facility to the south by leasing an additional 26 additional acres of land from MSCAA to create additional shipping trailer container parking (Appendix A, Figure 1). The project also includes the construction of additional shipping trailer and employee parking on the existing UPS site. The project is needed because UPS finds it necessary to expand its operations (package processing) at this facility due to continued growth of the warehousing and logistics industry in the Metro-Memphis area.

2. Describe the preferred alternative and include all connected actions. Attach a graphic depiction of the proposed action, including haul routes and staging areas if applicable, to the back of this form or in an appendix.

The preferred alternative includes the expansion of UPS's current operation at MEM by leasing an additional 26 acres of land from MSCAA needed for additional shipping trailer container parking and for the expansion of existing buildings. In addition, this alternative includes construction of additional shipping trailer container parking and employee parking, and a new trailer shop on the existing UPS site (Appendix A, Figure 2).

The majority of the area where UPS plans to expand and develop is vacant property. The area to the east and southeast of the existing Distribution Center was formerly a residential development, which was claimed for use by the MSCAA. Homes were removed, but the paved city streets, concrete sidewalks, old driveways, and mature planted trees remain. These existing asphalt streets and driveways and concrete curbs will be removed and two small empty pre-engineered metal buildings (each building is approximately 8,000 square feet) built in 1979 and 1985, respectively, will be demolished. Approximately 34 acres of vegetation (trees, grass, etc.) will be removed from the expanded area to the north, east, and southeast of the Distribution Center. In addition, approximately 10 acres of vegetation (mowed and maintained landscaped area consisting primarily of grass and weeds) will be removed from the areas to the west and south of the Distribution Center. However, a 100-ft buffer of vegetation will remain along the perimeter of Swinnea and Winchester Roads and a 30-ft riparian buffer will remain along Hurricane Creek. Shipping container trailer and employee parking is planned for the areas cleared of vegetation. Buildings constructed in 2015 at the Distribution Center will be extended to the south.

Waste materials from the project will exit the area from the south on Runway Road and travel to Swinnea Road. Once at Swinnea Road, waste materials will travel north or south to the appropriate recycling or construction waste site.

3. Describe the no action alternative including the environmental, operational, and economic impacts that would occur if used.

Under the No Action Alternative UPS would not lease the needed space from MSCAA. The new construction activities described previously would not occur, and the improvements of the proposed action would not be realized resulting in a potential shift in volumes to other airports.

4. List and describe other reasonable alternatives.

No other alternatives were considered. The current UPS facility located at MEM was designed for future expansion and growth for the UPS-Planning area.

5. Provide rationale for why other reasonable alternatives were removed from consideration.

UPS has other facilities in the area, but the sites are limited on growth capacity. There is an older facility on Carrier Street, but the building infrastructure and local available property limit the ability for expansion. There is also a facility in Bartlett, Tennessee but it is not in the optimum location for a major parcel handling facility.

Section III

(A) Air Quality

Factors to consider: (1) Impacts from aircraft, ground vehicle, and equipment emissions (2) Project location with respect to NAAQS attainment/maintenance/non-attainment areas. (3) Modeling requirements

Note: Impacts should be discussed for any action involving outside construction.

Resources:

- (1) FAA 5050.4B Desk Reference air quality section:

http://www.faa.gov/airports/environmental/environmental_desk_ref/media/desk-ref-chap1.pdf

- (2) EPA Greenbook: <http://www3.epa.gov/airquality/greenbook/>

The project would not increase airside capacity, as UPS is not adding flight operations under the proposed action; therefore, there would be no impacts on air quality from additional aircraft operations. However, the project would increase ground vehicle activity resulting in impacts on air quality from additional ground vehicles. Currently, there are 180 UPS vehicles operating from the site and this is expected to grow to 280 UPS vehicles. In addition, there are 700 employee parking spaces onsite. Within a 24-hour period, 1,400 employee vehicles come and go to the site, using those 700 parking spaces. Under the proposed action, employee parking would expand to 1,000 parking spaces with up to 1,800 employee vehicles coming and going to the site in a 24-hour period. Long-term, negligible, adverse effects on air quality are occurring and future impacts are predicted to be negligible due to the increase in ground vehicle activity.

The proposed action would involve building demolition and new construction, which would impact air quality, but the impacts would be short-term, minor, and localized.

As of July 25, 2016, Shelby County, Tennessee is in attainment for all federal air quality standards (NAAQS), though it is in *maintenance* status for 2008 8-hour ozone and carbon monoxide (CO). Federal Actions proposed in *maintenance* areas are subject to the General Conformity Regulations at 40 CFR Part 93.

An air quality analysis using the Airport Construction Emissions Inventory Tool (ACEIT), version 1.0 was performed for the proposed action. Estimates were developed for criteria air pollutants and greenhouse gas emissions from engine-powered construction equipment, worker commutes, material transport, fugitive dust during demolition and construction, and evaporative/volatilization emissions from installation of new asphalt paving. ACEIT generated emission factors for vehicles were then used to calculate emissions from the proposed action arising from increased ground vehicle activities.

Direct emissions from the proposed action arising from demolition and construction activities would be generated only for the duration of construction activities which, for the purposes of this air quality analysis, is assumed to occur in the year 2020.

Indirect emissions from the proposed action arising from increased ground vehicle activities would be generated once the proposed action is completed. These emissions would continue to occur after the construction phase.

A detailed analysis of estimated emissions caused by the proposed action including demolition and construction is attached in Appendix B. The analysis conducted was a conservative estimate of emissions, intended to capture the greatest potential for impact. The calculated emissions for ozone precursors (nitrogen oxides [NO_x], and volatile organic compounds [VOC]), CO, PM₁₀, and PM_{2.5} were below the applicable General Conformity *de minimis* thresholds established by the Clean Air Act (40 CFR93.153(b)) and are therefore considered to be insignificant.

**Proposed Action Total Emissions of Criteria Air Pollutants
and *De Minimis* Thresholds (TPY)**

	NO _x	VOC	CO	PM ₁₀	PM _{2.5}	SO ₂
<i>De Minimis</i> Threshold ¹	100	100	100	100 ²	100 ²	100 ²
Direct Emissions	23.23	73.98	30.88	5.28	1.19	0.15
Indirect Emissions	5.44	0.01	11.79	0.28	0.27	0.03

CO – carbon monoxide

NO_x – nitrogen oxides

PM₁₀ – particulate matter less than 10 microns in diameter

PM_{2.5} – particulate matter less than 2.5 microns in diameter

SO₂ – sulfur dioxide

TPY – tons per year

VOC – volatile organic compounds

¹ 40 CFR 93.153(b)(2) – Standards for maintenance areas

² Thresholds for particulate are shown for demonstration purposes. Shelby County is in attainment for PM₁₀, PM_{2.5}, and SO₂.

(B) Biological Resources

Factors to consider: (1) Impacts to federal and state-listed species (2) Impacts to non-listed species and migratory birds (3) Impacts to habitat

Note: Impacts should be discussed for any action involving terrain/vegetation disturbance.

Resources:

- (1) USFWS IPAC: <http://ecos.fws.gov/ipac/>
- (2) KY state list <http://naturepreserves.ky.gov/pubs/Pages/cntyreport.aspx>
- (3) NC state list <http://www.ncnhp.org/>
- (4) TN state list: http://environment-online.state.tn.us:8080/pls/enf_reports/f?p=9014:3:25305085995908

Impacts to federal and state-listed species – Under Section 7 of the Endangered Species Act (ESA) of 1973, actions on federal lands or approved by federal agencies require evaluation for the presence of federally protected species and critical habitats. The U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) website was used to generate an official species list of federally protected species for the project area. Based on the USFWS IPaC review (USFWS 2019), the following two bat species have the potential to occur at the UPS project site:

- Indiana bat (*Myotis sodalis*) – federally endangered
- Northern long-eared bat (*Myotis septentrionalis*) – federally threatened

However, no critical habitat for federally listed species occurs in the project area. A habitat assessment for the Indiana bat was completed on a portion of the proposed project area in 2014. Indiana bats typically roost under exfoliating bark of trees in their summer habitat, and typically use floodplain forests (Copperhead 2014). Formerly a residential housing development, the project site contains scattered mature trees, and was determined to provide poor Indiana bat habitat due to the condition of the property and surrounding properties, understory clutter in the riparian buffer, concrete-lined stream channel, and lack of quality habitat for foraging, commuting, and roosting (Copperhead 2014). The remaining portions of the project area provide this similar habitat type or provide open habitat not suitable for this species.

Northern long-eared bats may use cavities or crevices of live and dead trees for summer roosting. No Northern long-eared bat sites for summering or swarming habitat were found within Shelby County (USFWS 2015). On June 18, 2019, a letter from the USFWS generated via IPaC submittal found that the proposed project may affect the northern long-eared bat; however, any take that may occur as a result of the project is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). See Appendix C for a copy of this agency consultation.

In addition, letters requesting information on federally and state listed species with the potential to occur in the project area were sent to the USFWS and the Tennessee Wildlife Resources Agency to determine the presence of other potential species in the project area. The Tennessee Wildlife Resources Agency responded that they “do not anticipate adverse impacts to state listed species” and the USFWS responded that “Information available to the Service does not indicate that federally threatened and endangered species or designated critical habitat occur within the impact area of this project, therefore the Service does not anticipate that any federally listed species would be impacted by the proposed action. Based on the best information available at this time, we believe that the requirements of the Fish and Wildlife Coordination Act and Section 7 of the Endangered Species Act of 1973, as amended, are fulfilled”. Agency responses are provided in Appendix C.

Impacts to non-listed species and migratory birds – The project site is located within the boundaries of MSCAA and includes semi-natural lands and a stream channel that provide wildlife habitat. Species observed during a May 2019 site visit includes grey squirrel (*Sciurus carolinensis*), chipmunk (*Tamias striatus*), red-winged blackbird (*Agelaius phoeniceus*), American robin (*Turdus migratorius*), American crow (*Corvus brachyrhynchos*), and blue jay (*Cyanocitta cristata*). The USFWS IPaC review indicates the potential for one migratory species to occur in the project area, the American kestrel (*Falco sparverius paulus*) (USFWS 2019). This species uses open and semi-open habitats, and could potentially occur in turf or landscaped areas, but is not known to occur at the project site. A stream, Hurricane Creek, within the project area is a concrete-lined channel that is severely altered from its natural state. Even though the stream supports aquatic insects and fish it provides a low-quality habitat for for these species as well as other species such as birds. No project work would occur in Hurricane Creek; therefore, aquatic species would not be impacted. Overall, the developed nature of the airport and associated airport activity on the existing 100-acre UPS site would likely limit wildlife presence.

Impacts to habitat – The project area includes several habitat types: existing impervious and developed areas, open areas with turf, stream channels, a forested riparian buffer, and a semi-natural area with scattered mature trees within a maintained lawn area (Appendix A, Figure 3). The mature trees found in the park-like setting of the former residential area include primarily eastern cottonwood (*Populus deltoides*), with other species such as black walnut (*Juglans nigra*), and American elm (*Ulmus americana*). The riparian forest buffer is narrow, with mature trees and a dense understory of woody vines. Trees in this habitat were dominated by post oak (*Quercus stellata*), white pine (*Pinus strobus*), American elm, and willow oak (*Quercus phellos*).

The proposed project would result in the clearing of trees in the semi-natural habitat for the construction of container trailer parking. Approximately 34 acres of vegetation including trees would be impacted; however, the riparian forest within the 30-ft riparian buffer would not be impacted by the proposed project. Impacts to the former residential area would result in the loss of habitat; however, this habitat is not considered a high-quality habitat, and it is likely that the proximity of this area to the airport and industrial uses has resulted in noise and other disturbances that preclude the area from use by many wildlife species. Overall, the loss of this habitat would be long-term, moderate, and adverse.

(C) Climate

Factors to consider: (1) Impacts from Greenhouse Gases (GHGs) from aircraft, ground vehicles, or other sources (2) Qualitative analysis should be used unless air quality modeling was used in part of Section III (A) Air Quality

Resources: (none)

The project would not increase airside capacity, as UPS is not adding flight activities under the proposed action; however, there would be impacts from greenhouse gases (GHGs) from additional ground vehicles, construction equipment, and building demolition.

As described in Section III (A) Air Quality, ACEIT, version 1.0 was used for GHGs emissions calculations from demolition and construction activities.

A detailed analysis of estimated emissions caused by the proposed action including demolition and construction is attached as Appendix B. The analysis conducted was a conservative estimate of emissions, intended to capture the greatest potential for impact. The calculated GHGs emissions as CO₂e were well below 25,000 metric tons, hence the impact is considered insignificant.

Proposed Action Total Emissions of Greenhouse Gases (Metric TPY)

	CO ₂	CH ₄	N ₂ O	CO ₂ e ¹
Reference Point ²	--	--	--	25,000
Direct Emissions	14,601	0.34	0.07	14,631
Indirect Emissions	3,234	0.47	0.08	3,269

CO₂ – carbon dioxide
CH₄ – methane
N₂O – nitrous oxide
¹CO₂e – carbon dioxide equivalent (CO₂e Emissions = (CO₂ Emissions * CO₂ GWP) + (CH₄ Emissions * CH₄ GWP) + (N₂O Emissions * N₂O GWP)
GWP – Global Warming Potential (CO₂ GWP = 1; CH₄ GWP = 25; N₂O GWP = 298)
²CEQ Revised Draft Guidance on Greenhouse Gas Emissions in NEPA Reviews, December 2014. This guidance was issued as final on August 2016 and then withdrawn for further consideration by EO13783 on March 2017.

(D) Coastal Resources

Factors to consider: (1) Impacts to Coastal Barrier Resources and Coastal Zone Management (CAMA) (2) Need for Federal Consistency Review

Note: This section is only applicable to the 20 coastal counties in NC

Resources:

(1) USFWS coastal barrier mapper <http://www.fws.gov/cbra/Maps/Mapper.html>

There are no coastal zones in Tennessee; therefore, there would be no impacts to Coastal Barrier Resources or CAMA. There is no need to prepare a Federal Consistency Review since the area is not in a coastal zone regulated by the Coastal Zone Management Program.

(E) DOT Section 4(f)

Factors to consider: (1) Impacts to parks, national forest, wildlife refuge, or other recreational areas (2) Impacts to Section 106 resources (3) Constructive use impacts from noise (4) Impacts to Section 6(f) Lands

Resources: (none)

Impacts to parks, national forest, wildlife refuge, or other recreational areas – The proposed project would be on MSCAA property which is not a park, national forest, wildlife refuge, or other recreational area. The closest park is Oakhaven Park, which is located across Swinnea Road from the project site. This park is managed by the City of Memphis Division of Parks and Neighborhoods. The 100-ft vegetated buffer along Swinnea Road would mitigate impacts to Oakhaven Park. Several other city-managed parks and state parks are in the region, but these sites would not be impacted due to their distance from the project site. The nearest national forest to the project site is Holly Springs National Forest, which is approximately 44 miles to the southeast. The nearest wildlife refuge is Wapanocca National Wildlife Refuge, located 24 miles northwest of the project site.

Impacts to Section 106 resources – A review of the National Register of Historic Places (NRHP) database shows the nearest recorded historic property as Graceland, which is located approximately 3.3 miles west of the project site. The project site is also approximately 2.7 miles southwest of the Normal Station Historic District boundary. A review of the Tennessee Historical Commission (THC) database shows two records found 2 miles from the project area. Due to the distance from properties listed on the NRHP and THC databases, the proposed project would have no impacts to Section 106 resources. Correspondence with the State Historic Preservation Officer can be found in Appendix C.

Impacts from noise – Noise from construction activities has the potential to impact Oakhaven Park, but it is anticipated that the 100-ft vegetated buffer would help to mitigate impacts of construction noise. Noise is not expected to impact other parks, national forests, wildlife refuges, or other recreational areas due to their distance from the project site.

Impacts to Section 6(f) lands – The proposed project does not require the purchase or use of any Section 6(f) of the Land and Water Conservation Fund Act property. UPS would be leasing the property from MSCAA. The proposed site is not within a public park, recreation area, or wildlife/waterfowl refuge as discussed above.

(F) Farmland

Factors to consider: (1) Impacts to farmlands considered to be prime, unique, or statewide and locally important (2) Farmlands include pasturelands, croplands, and forest (even if zoned for development)

Note: In certain cases, airport owned land may be considered farmland.

Resources:

(1) NRCS/USDA AD 1006 Form:

http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1045394.pdf

The project would not involve the use of farmlands; therefore, there would be no impacts to farmlands from the project.

(G) Hazardous Materials, Solid Waste, and Pollution Prevention

Factors to consider: (1) Impacts or removal of hazardous materials/waste from existing sites or facilities (2) Use of hazardous materials for new construction (3) Impacts to solid waste facilities from construction and post-construction activities (4) Use of pollution prevention activities, plans, programs, or policies

Resources:

(1) EPA Superfund site search: <http://cumulis.epa.gov/supercpad/cursites/srchsites.cfm>

(2) EPA hazardous waste cleanup sites: <http://www.epa.gov/cleanups/cleanups-my-community>

(3) EPA solid waste generation: <http://www3.epa.gov/epawaste/conserve/imr/cdm/pubs/cd-meas.pdf>

A Phase I Environmental Site Assessment (ESA) was conducted by Arcadis in 2013 on UPS's existing leased property (Figure 2) (Arcadis 2014). The report found no Underground Storage Tanks (USTs) present at the property according to a report prepared by Environmental Data Resources, Inc. and consultation with the Shelby County Planning and Development Division, Memphis Landmarks Commission, TDEC Division of Underground Storage Tanks, and interviews with UPS personnel. The report concluded that no additional actions are recommended as part of the Phase I ESA. During consultation with the TDEC Division of USTs for the proposed project, TDEC stated in a letter dated June 27, 2019 that their records indicate that there is a former UST site (Anglin Drywall, 2811 Sanderwood Drive) within the boundaries of the lease expansion (see Appendix C for a copy of the TDEC response). The Arcadis Phase I ESA listed the Anglin UST site as occurring within approximately 0.5 miles of the target property and the current status of the UST site was reported as "Case Closed" (Arcadis 2014). The tank was removed in 1993 (Arcadis 2019) (see Appendix C for a copy of this correspondence).

Two separate Phase I Environmental Site Assessments (ESAs) were conducted by Pickering Environmental Consultants, Inc. in 2004 on the two small metal buildings planned for demolition (Pickering 2004). The contents of the buildings were removed and the MSCAA was using the buildings for storage. The only known suspected hazardous materials at the project site are Asbestos-Containing Building Material (ACBM's) that are presumed to be located in these buildings. These buildings will be surveyed for hazardous material prior to demolition. Location and quantity of ACBMs would be verified in the field by the demolition contractor. Removal and disposal of asbestos containing materials would be done by the demolition contractor in conformance with applicable safety and environmental regulations, as well as BMPs. Non-friable ACMs elected for removal would be removed as a Class II abatement operation pursuant to 29 CFR 1926.1101; friable ACMs would be removed prior to demolition. Shelby County Health Department – Air Pollution Control (SCHD-APC), the local authority for enforcement of the National Emission Standards for Hazardous Air Pollutants (NESHAP), also regulates the removal of Category II nonfriable asbestos materials (Transite) prior to demolition. Category I non-friable materials may be demolished with structures. These materials include roofing, confirmed or presumed, and vinyl tiles with mastic. Tiles and mastic, if demolished with structure, would necessitate landfill disposal of demolition substrate.

No hazardous materials will be used for new construction.

Project construction will result in demolished asphalt and concrete pavement products, topsoil, and scrap metal from the existing metal buildings. Construction materials where possible will be recycled on site for re-use. Based on previous construction practices at MEM the following is anticipated to be recycled or re-used:

- Concrete pavement - 60% recycled
- Asphalt pavement - 80% recycled
- Topsoil will be re-used on site where possible for landscaping berms and landscape installations. It is estimated that 50% of the topsoil will be re-used and the balance will be disposed of at an appropriate landfill or soils borrow pit.
- Sheet metal - there is a small amount of sheet metal on the existing building. It is estimated that 60% will be re-used and the balance will be recycled. Sheet metal from

the two small metal buildings (each building is approximately 7000 SF) on the expansion property will be recycled where possible.

UPS will contact timber companies to determine interest in the lumber from the trees to be removed from the site and the balance will be recycled as mulch and landscape materials. It is anticipated that the trees will be 100% recycled/re-used.

The balance of the solid waste generated during the proposed project that is not recycled or reused would be disposed of at a landfill capable of receiving the amount and type of waste produced during the demolition process, including waste contaminated with asbestos or other hazardous material.

The project construction contractor would determine the classification of all waste streams, including Universal Waste and Hazardous Waste per TDEC SWM Rules 0400-12-01.12 and 0400-12-01.03(b), and secure an agreement with one or more local waste disposal company and the landfill(s) that would receive the waste.

UPSs construction contractor would also be responsible for filing required notices for all hazardous waste disposal, including filing a notice of asbestos demolition with Shelby County Health Department Air Pollution Control. Notification is required of any demolition even if there is no asbestos.

Construction activities will comply with MSCAA's 2014 Storm Water Pollution Prevention Plan (Spill Prevention, Control, and Countermeasure Plan). The plan was prepared for MEM in accordance with BMPs and in accordance with Title 40 Code of Federal Regulations Part 122.26, as appropriate. The plan was prepared with the goal of improving water quality by reducing pollutants contained in storm water discharges.

(H) Historical, Architectural, Archeological, and Cultural Resources

Factors to consider: (1) Impacts to above and below ground resources (2) Indirect impacts from light emissions, vibration, and noise (3) Impacts to viewshed from construction or removal of buildings, trees, and other objects

Note: Obtain FAA/SBG concurrence before completing any of the following: (1) Initiating formal Section 106 proceedings (2) Coordinating the APE or determination of effects (3) Consulting with THPOs

Note: "Previously disturbed" terrain does not necessarily exclude the action from Section 106

Resources:

(1) NPS NRHP database: <http://www.nps.gov/nr/research/>

(2) NC GIS historic sites: <http://gis.ncdcr.gov/hpoweb/>

Note: These databases do not feature all known or potential sites.

A review of the National Register of Historic Places (NRHP) database shows the nearest recorded historic property as Graceland, which is located approximately 3.3 miles west of the project site. The project site is also approximately 2.7 miles southwest of the Normal Station Historic District boundary. A review of the Tennessee Historical Commission (THC) database shows two records found two miles from the project area. Due to the distance from properties listed on the NRHP and THC databases, proposed project would have no impacts to Section 106 resources.

The majority of the area where UPS plans to expand is vacant property. It was formerly a residential development, which was claimed for use by the MSCAA. Homes were removed, but the paved roads, concrete sidewalks, and mature planted trees remain. On the developed portion of the site, two small empty pre-engineering metal buildings (previously used for storage) built in 1979 and 1985, respectively, will be demolished.

Due to the previous development and building removal at the site, the likelihood of discovering archaeological resources within the Area of Potential Effect is extremely low. The existing buildings are support structures that are less than 50 years old. It is anticipated that this proposed project would have no effect on historic properties. If human remains are encountered during ground-disturbing activities, all work must immediately cease within 100 feet of the discovery. The Tennessee State Historic Preservation Office, and appropriate Tribes must be notified of the discovery within 24 hours. All discoveries will be treated in accordance with the Native American Graves Protection and Repatriation Act (NAGPRA) (Public Law 101-601; 25 USC 3001–3013) or Tennessee burial laws (TCA 46-4-101 through TCA 46-4-104, and TCA 39-17-312), as appropriate, and work must not resume in this area without proper authorization.

Formal Section 106 consultation was initiated on the proposed project with the Tennessee Historical Commission State Historic Preservation Office (SHPO) on June 25, 2019. The SHPO responded that they have no objections to the project proceeding since there are no NRHP listed or eligible properties affected by the undertaking. Agency correspondence is provided in Appendix C.

No indirect impacts from light emissions, vibration and noise from demolition and construction would occur on historic resources since there are no historic properties located within two miles of the project site.

No impacts would occur from the proposed project on the viewshed of historic properties from construction or removal of buildings, trees, and other objects since the closest historic property is over three miles away.

(I) Land Use

Factors to consider: (1) Impacts to existing and/or planned land uses or zoning (2) Compatibility with airport design standards such as RPZs (3) Consistency with local public agencies (4) Creation of wildlife attractants

Resources: (none)

The project site was previously used for farming until the 1950s, then it transitioned to residential and light commercial/industrial land use. The proposed project would not change the use or character of the project site or surrounding area and would be consistent with existing land use plans, goals, policies, and zoning. No rezoning is required for the proposed project. MSCAA received approval from the City of Memphis for use of a Planned Development in a residential zone.

The proposed project is consistent with the plans, goals, and policies of the 2010 Master Plan Update for MEM. The project site is located on MSCAA property in an area reserved for future development by the plan.

The proposed project is also consistent with the plans, goals, and policies of the Long-Range Transportation Plan (adopted by the Memphis Metropolitan Planning Organization), the FY 2017-20 Transportation Improvement Program (adopted by the Memphis Metropolitan Planning Organization), Greenprint 2015/2040 (adopted by Shelby County and the City of Memphis), and the Memphis Aerotropolis Airport City Master Plan.

The proposed project would not result in the creation of wildlife attractants or exacerbate an existing wildlife hazard at MEM. The project involves expansion of the current facility which includes construction of container trailer parking and employee parking in areas that were previously residential.

(J) Natural Resources and Energy Supply

Factors to consider: (1) Impacts on fuel, electricity, gas, water, wood, asphalt, aggregate, and other construction material supplies (2) Impacts from construction as well as post-construction and maintenance activities

Resources: (none)

The proposed project would not result in the consumption of natural resources that are in short supply. Gas, electric, and water usage will increase at the site due to the proposed project. Gas, usage will increase approximately 40%, electric usage will increase approximately 65%, and water usage by approximately 20%. Energy (gas, electric, etc.) required for construction will be a temporary and short-term need. Construction activities are expected to last nine months.

(K) Noise and Compatible Land Use

Factors to consider: (1) Impacts to non-compatible land uses and local land use standards (2) Changes in operational activity, fleet mix, flight tracks, or engine runups (3) Modeling requirements

Note: Effective 5/29/15 all modeling must be completed with AEDT. See FRN:

<https://www.federalregister.gov/articles/2015/05/15/2015-11803/noise-fuel-burn-and-emissions-modeling-using-the-aviation-environmental-design-tool-version-2b>

Resources:

(1) FAA 5050.4B Desk Reference noise section:

http://www.faa.gov/airports/environmental/environmental_desk_ref/media/desk-ref-chap17.pdf

- (2) FAA noise/land use compatibility chart: http://www.ecfr.gov/cgi-bin/text-idx?SID=1ae7ac2b63580049ff71cc00a57ce7fa&mc=true&node=ap14.3.150_135.a&rgn=div9

The proposed project area is located on MSCAA property and no land use would change as a result of the project. Areas affected by the project are not currently in use (former residential area). There would be no disruption of communities or relocation of businesses or residences.

The proposed project would not increase aircraft operations and therefore would have no long-term adverse effect on airport operations or noise levels. Noise generated by heavy equipment during construction, and building demolition and removal would be localized, short term, and temporary but would be kept to a minimum by employing appropriate BMPs. The construction and demolition would be secondary to the existing noise sources in the project area, which include airport operations, aircraft traffic, freight-handling equipment, and nearby roads and highways. The 100 ft vegetated buffer on the east side of the site will provide mitigation during construction, and in the operation of the proposed facility, to reduce the effects of noise on the ambient environment.

Per Order 1050.1F Appendix B, a noise analysis is not required because “the description of current noise conditions is usually confined to aircraft noise” (para. B-1.3). The proposed project would not change aircraft operations (e.g., flight tracks, fleet mix, runway use, time of day, etc.) or induce new or different aircraft operations. MSCAA has committed to minimizing construction noise by use of appropriate BMPs. Since a noise analysis is not needed, modeling is also not needed.

(L) Socioeconomics, Environmental Justice, Children’s Environmental Health and Safety Risks

Factors to consider: (1) Impacts from property acquisition and/or relocation of displaced persons/businesses (2) Impacts to population, economic activity, employment, income, public services, transportation networks, and planned development (3) Impacts to minority and low-income populations (4) Impacts to children

Resources:

- (1) Census Bureau fact finder: <http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>
- (2) Bureau of Economic Analysis: <http://www.bea.gov/>
- (3) EPA EJ Screen: <http://ejscreen.epa.gov/mapper/>

There would be no property acquisition since the proposed project area is located on MSCAA property. The project area was formerly used as a residential subdivision and the residences were demolished in the 1990s so there would be no relocation of persons or businesses.

Adverse impacts are not expected to the local population, public services, transportation networks, and planned development because the proposed action would affect internal airport conditions only and is not expected to change business or economic activity in the community. Traffic to and from the proposed project will be from Swinnea Road, an existing roadway which has convenient access to Interstate 240. Existing residential roads to the east of Swinnea Road will not be affected.

The project would likely have a beneficial socioeconomic effect during construction because of employment of construction workers for demolition and construction activities, and because of purchases of supplies and services from local businesses for the planned work. Furthermore, the proposed action would allow for the UPS Hub to continue as a premier hub for UPS, contributing to economic health of the greater Memphis area.

The project as proposed is not expected to have an impact on nearby residences. The project is located on MSCAA property just west of Swinnea Road. All nearby residences are located to the east of Swinnea Road making them closer to an active highway (Swinnea Road) than to the project area. In addition, the vegetated landscaped buffer along Swinnea Road would mitigate impacts from the proposed action; therefore, no residences would be affected by demolition or construction activities. The project would generate jobs for the demolition and new construction activities and would not reduce permanent employment at the airport. The project is not expected to create adverse human health, social, economic, or health issues; therefore, it would not result in impacts to minority and low-income populations.

The proposed project is located on MSCAA property and appropriate safety measures (e.g., fencing, signs, etc.) would be in place to prevent public access to the project site during construction activities. In addition to a fence surrounding the construction site, a 100-ft vegetated buffer will be located between the site and Swinnea Road. The closest neighborhood is located just east of the project site across Swinnea Road; this neighborhood also includes Oakhaven Elementary and Oakhaven High School, which are approximately 1,000 feet from the eastern edge of the project site. The closest park is Oakhaven Park, located across Swinnea Road from the project site. Even though these resources are in proximity to the project site, given the constraints (100-ft buffer, Swinnea Road) and precautions (fence, signs, etc.) that will be taken to keep the general public, including children, from accessing the construction site, the project is not expected to disproportionately affect children.

(M)Visual Effects (including light emissions)

Factors to consider: (1) Impacts to residential areas, Section 106 resources, Section 4(f) properties, protected coastal areas and rivers, scenic roads/byways, scenic trails, and sensitive wildlife species (2) Impacts from new construction or modification (3) Impacts from object removal (e.g. trees, buildings, etc.)

Resources: (none)

Impacts to Residential Areas – A residential area is located adjacent to the project site just east of Swinnea Road. Lights will be needed for the container trailer parking areas. UPS will develop a Lighting Containment Plan to minimize light pollution from the parking areas on the residential properties. There is currently an existing vegetated berm along the east side of Swinnea Road (7 lanes) that was established 20 years ago to buffer single-family homes from airport activities. There is currently no line of sight from the residential areas to the project site due to this existing vegetated berm. In addition, a 100-ft vegetated landscaped buffer is required along the west side of Swinnea Road which will also block visual impacts on the residential area from views of the container trailer parking. See Appendix D for a detailed

visual analysis. The existing and required landscaping buffers will also minimize light pollution. Therefore, visual and light emissions impacts from the proposed action are not anticipated on the residential community located across Swinnea Road.

Impacts to Section 106 Resources – There would be no visual effects including light emissions on Section 106 resources since there are no historic properties located within two miles of the project site.

Impacts to Section 4(f) Properties – The proposed project does not require the purchase or use of any Section 6(f) land. UPS would be leasing the property from MSCAA which was established in 1993 as Aviation Facility Planned Development. The proposed site is not a public park, recreation area or wildlife/waterfowl refuge as discussed under section (E) DOT Section 4(f). The closest section 4(f) property is Oakhaven Park, located across Swinnea Road from the project site. There is currently an existing vegetated berm along the east side of Swinnea Road that prevents a line of sight from Oakhaven Park to the project site. In addition, a 100-ft buffer of vegetation will be established and maintained by UPS along the west side of Swinnea Road to mitigate impacts (viewshed and noise) from the proposed action on Oakhaven Park. The 100-ft buffer of vegetation includes installing a 3-ft high berm with evergreen plantings which would provide a nearly opaque natural screen. Due to the existing vegetated berm on the east side of Swinnea Road and the required 100-ft buffer of vegetation to be established along the west side of Swinnea Road, impacts are not expected to occur from the proposed action on the viewshed at Oakhaven Park. A detailed Section 4(f) analysis can be found in Appendix D.

Impacts to Protected Coastal Areas and Rivers – There are no coastal areas in Tennessee; therefore, there would be no impacts to protected coastal areas. The closest protected river to the project site is the North Sylamore Creek, a Wild and Scenic River which is located in Arkansas over 200 miles away. Obed River is the only river in Tennessee that is a Wild and Scenic River. The Obed River is located over 300 miles from the project site; therefore, there would be no visual or noise impacts to protected rivers from the proposed project.

Impacts to Scenic Roads/Byways and Scenic Trails – The closest National Scenic Byway is the Great River Road, located approximately 5.3 miles west of the project site along the Mississippi River. There are no other scenic roads or trails in proximity to the project area. Because of the distance of these scenic byways and trails, no impacts on scenic roads or byways, or scenic trails are expected from the proposed project.

Impacts to Sensitive Wildlife Species – The project site is located within the boundaries of MSCAA and the project area is used for industrial uses associated with the airport and provides little habitat for wildlife. Although the proposed project would have some impacts from light pollution and noise, these impacts would not be anticipated to be greater than existing impacts from the surrounding airport and land uses. The implementation of a Light Containment Plan would minimize any potential impacts to sensitive species.

Impacts from New Construction or Modification – The proposed project would result in the removal of two existing buildings on the site, extending an existing building, and the conversion of land from a former residential area to trailer parking areas. Although this would alter the visual area, this construction would be consistent with the visual area surrounding the project area, which includes the airport and surrounding uses. In addition, the existing vegetated berm along the east side of Swinnea Road blocks the line of sight of the project from adjacent areas (neighborhoods and city park) and the required 100-ft landscaped buffer along the west side of Swinnea Road would prevent visual impacts on adjacent areas.

Impacts from Object Removal (e.g. trees, buildings, etc.) – The project would result in the removal of two empty buildings used for storage and the removal of trees from a former residential area. No impacts would occur on the viewshed due to the removal of buildings as the viewshed would be consistent with the surrounding land uses. In addition, the existing vegetated berm located along the east side of Swinnea Road blocks the line of sight of the project from adjacent areas (neighborhoods and city park). The required 100-ft vegetated buffer along the west side of Swinnea Road would preserve the trees in the buffer as well as the addition of evergreen plantings to the buffer would provide a nearly opaque natural screen. Therefore, given the existing landscaped berm and the enhancement of the 100-ft buffer no long-term visual impacts related to the removal of the trees is expected.

(N) Water Resources

Factors to consider: (1) Impacts to floodplains, wetlands, surface waters, groundwater, and wild and scenic rivers (2) Impacts to jurisdictional and non-jurisdictional wetlands (3) Impacts from increased stormwater runoff (4) Changes in hydrologic patterns (5) Impacts to ground water recharge capability and drinking water supplies (6) Impacts from sedimentation, petroleum/chemical/hazmat spills, or other factors causing water quality degradation (7) Impacts to NRI listed rivers, river segments, or study rivers.

Resources:

- (1) FEMA Flood Map Service Center: <https://msc.fema.gov/portal>
- (2) USGS National Map: <http://viewer.nationalmap.gov/viewer/>
- (3) USFWS National Wetland Inventory: <http://www.fws.gov/wetlands/Data/Mapper.html>
Note: The NWI is not considered an official wetland delineation.
- (4) NPS National River Inventory: <http://www.nps.gov/ncrc/programs/rtca/nri/index.html>
- (5) National Wild and Scenic River's website <http://www.rivers.gov/map.php>

Impacts to Floodplains – Approximately 17 acres of the entire project area are within a floodplain (Appendix A, Figure 4). However, only approximately 0.4 acres of the proposed action (e.g., building expansion and parking areas) would be constructed within the 1% annual chance flood zone (Zone AE) (100-year floodplain) and approximately 1.3 acres (e.g., parking areas) within the 0.2% annual chance floodplain. The project area includes portions of Hurricane Creek, which is considered a Regulatory Floodway. Regulatory floodways are channels and watercourses reserved to discharge the base flood without cumulatively increasing the water surface designation above a designated height. For Hurricane Creek within the project area, the base flood elevation (BFE) has been determined based on past hydraulic analyses, and ranges from 259 to 269 feet. The proposed action would impact approximately 1.4 acres of the Regulatory Floodway with a BFE.

The relatively small area (0.4 acres) of the project site that is located in the 100-year floodplain (1% annual chance flood zone) has previously been developed and modified. The site was used for farming until the 1950s, then it transitioned to residential and light commercial/industrial land use. The proposed action would result in a net decrease of pervious surfaces within the floodplain. Vegetation (trees, grass, etc.) will be removed from within the floodplain to construct the expanded parking areas. However, a 100-ft buffer of vegetation would be established along the perimeter of Swinnea and Winchester Roads and a 30-ft riparian buffer will remain along each side of Hurricane Creek. The floodplain in the project area where the building expansion is proposed has previously been modified. It now contains a small concrete lined drainage channel/linear wetland. The building expansion would require piping of this concrete lined drainage channel underground (discussed below under the Wetlands section), which would alter the floodplain. Stormwater from the project area flows into the receiving waters of the Hurricane Creek Drainage Area. Even though the project would impact a small drainage channel that has developed into a linear wetland, this impact would not influence the already modified hydrologic patterns of the floodplain. Appendix E contains a detailed analysis of the floodplain impacts.

The area in which the project encroaches into the 100-yr floodplain of Hurricane Creek is in the southern portion of the project expansion. A box culvert will be installed to convey the onsite and offsite (from airport) drainage into Hurricane Creek. The City of Memphis Engineering staff and the State National Flood Insurance Program Coordinator were consulted on the project and they concluded that a hydrologic and hydraulic analysis is not needed for this project since a detailed study already exists that was performed on Hurricane Creek that established the Regulatory Floodway. The portion of the floodplain in which the project is encroaching is enveloped in the existing drainage channel that will be encapsulated and is backwatered by Hurricane Creek. In summary, the portion of the floodplain that will be encroached upon by the project does not contribute to the conveyance of Hurricane Creek, therefore not creating a hinderance. In addition, the regulatory floodway has an encroachment limit that allows for a rise in water surface elevation of 1 foot or less. The proposed project will not be encroaching into these limits; therefore, the project will not be raising the water surface elevation by more than a foot.

An Aviation Facilities Planned Development site plan application for the proposed project was submitted to the Memphis and Shelby County Office of Planning and Development. The application was approved by Memphis and Shelby County Land Use Control Board on November 14, 2019. The agencies found that the proposed project “will not unduly injure or damage the use, value and enjoyment of surrounding property nor unduly hinder or prevent the development of surrounding property in accordance with the current development policies and plans of the City and County.” In addition, they found that “this proposal is consistent with the Memphis 3.0 General Plan per the land use decision criteria.” See Appendix C for this documentation.

Impacts on the floodplain values, which have previously been modified, include removal of vegetation and construction of new permanent features. Even though these actions are city and county approved engineering measures, they could have a small adverse impact on floodplain values – previously vegetated areas would have less capacity to store rainfall, new impervious surfaces may result in a reduction of water storage and infiltration of water into the ground. However, these impacts would be slight, and would not cause an increase in flooding at MEM.

Impacts to Wetlands (Jurisdictional and Non-Jurisdictional Wetlands) – A wetland delineation was conducted in the project area in May and June 2019 to determine the presence and extent of wetlands. Within the southern end of the expansion area there is a drainage channel that was concrete lined in 2004. This channel has developed into an approximately 0.15-acre linear wetland from the deposition of organic material on top of the concrete lining, which has allowed for the establishment of hydrophytic vegetation (Appendix A, Figure 5) (Brophy-Heineke & Associates, Inc. [Brophy-Heineke] 2019). Hydrophytic species in the wetland include black willow (*Salix nigra*), eastern cottonwood (*Populus deltoides*), green ash (*Fraxinus pennsylvanica*), narrowleaf cattail (*Typha angustifolia*), and floating primrose-willow (*Ludwigia peploides*) (Brophy-Heineke 2019). This wetland has a drainage area of approximately 100 acres and was previously determined by the Tennessee Department of Environment and Conservation (TDEC) to be a stream in 2013. However, during the 2019 wetland determination the linear wetland was found to be of a low resource value and the area does not meet the U.S. Army Corps of Engineers (USACE) criteria of a jurisdictional stream or wetland. The USACE Memphis District was sent a consultation letter informing them of the project and requesting comments on the proposed action. The USACE was also contacted for the request of an Approved Jurisdictional Determination (AJD) for the drainage channel. The USACE responded that a Section 404 permit is not required to conduct the proposed project and the USACE issued an AJD that confirms that the drainage channel is non-jurisdictional (see Appendix C for USACE correspondence). The TDEC agrees with the USACE that the channel is a non-jurisdictional drainage feature rather than a linear wetland. Therefore, an Aquatic Resources Alternation Permit would not be required.

Impacts to Surface Waters – Within the project area, surface waters include Hurricane Creek (a perennial stream) and a small drainage channel to Hurricane Creek that has become a linear wetland (Brophy-Heineke 2019). The planned demolition and construction work would be located within currently recognized and regulated drainage basins. TDEC Division of Water Resources has been notified of demolition and construction activity within these drainage basins. An impact is expected on surface waters due to increase in impervious areas resulting from the proposed project as discussed below.

Impacts to Wild and Scenic Rivers, NRI Listed Rivers, River Segments, or Study Rivers – The Obed River is the only river in Tennessee that is a Wild and Scenic River, located more than 290 miles from the project site. The Obed River is not located in Shelby County; therefore, there would be no impacts to the Obed River from the proposed project. There are no National Rivers Inventory (NRI) rivers, river segments, or study rivers located within the project area. The nearest NRI rivers are the Hatchie River in Tennessee (60 miles east of the project site) and the L'Anguille River in Arkansas (52 miles west of the project site). Due to the distance of the proposed project to these rivers, no impact is anticipated.

Impacts to Groundwater, Groundwater Recharge, and Drinking Water Supplies – Since the proposed action is to create additional parking areas, it is anticipated that there would be adverse impacts to groundwater recharge capabilities at the project site. The existing residential areas that are proposed for development are approximately 20% impervious and 80% pervious. Based on the required 100-ft landscape buffer and 30-ft riparian buffer that will remain along Hurricane Creek, the proposed project site will become 85% impervious and 15% pervious, thus limiting ground water recharge capabilities. However, this impact is expected to be minor and would not affect local drinking water supplies.

Impacts from Increased Stormwater Runoff, Including Impacts from Sedimentation, Petroleum/Chemical/Hazmat Spills, or Other Factors Causing Water Quality Degradation – A receiving stream is in the vicinity of the project area (Appendix A, Figure 2). Hurricane Creek flows from the south to north directly east of MEM and discharges into Nonconnah Creek. Stormwater from the project area flows into the Hurricane Creek drainage area. No part of the project would be conducted within the Hurricane Creek receiving waters; however, the drainage areas contain storm drains that convey stormwater to the identified receiving waters. Long-term minor adverse impacts are expected to water quality due to increased stormwater runoff from the conversion of pervious areas to impervious.

As required by National Pollutant Discharge Elimination System (NPDES) permit TN0072940, stormwater discharges to Hurricane Creek are currently regulated and UPS maintains a Storm Water Pollution Prevention Plan (SWPPP), which requires inspections by a Level 1 certified inspector to minimize impacts to water resources. Prior to commencement of demolition or construction activities, a UPS contractor would submit a completed and signed Notice of Intent (NOI) for Construction Activity - Stormwater Discharges to the Tennessee Department of Environment and Conservation (TDEC) Division of Water Resources. A UPS contractor will also develop and submit a site-specific SWPPP with the NOI.

In 2014 UPS was issued a wavier by the City of Memphis for an exemption from any potential storm water detention requirements that would be required by the Memphis and Shelby County Storm Water Management Manual based on the condition that the site is located within the lower 25% area of the drainage basin.

During demolition and construction, the following steps would be taken to minimize the potential for pollutants (sediment, building materials, and debris) to be discharged to the storm drains to protect water quality:

- Install sediment controls such as filter berms and silt fences around storm drains to capture and retain mobilized debris and sediment. Such devices would be periodically inspected and retained material would be removed to maintain proper operation of the controls.
- Minimize dust generation through the application of water or other dust suppression techniques.
- Minimize stockpiles of material.

Even with the implementation of industry standard BMPs, such as controlling runoff through implementation of a SWPPP, project-related demolition and construction could potentially create minor impacts to water quality and stormwater runoff.

Changes in hydrologic patterns – The proposed project would not result in changes to the existing hydrologic patterns and features at or near the project site. The existing hydrology in the project area has been modified. Hurricane Creek flows from south to north and is located within a concrete-lined channel and abuts the eastern perimeter of the project site. Stormwater from the project area flows into the receiving waters of the Hurricane Creek Drainage Area. Even though the project would impact a small concrete-lined drainage channel that has developed into a linear wetland, this impact would not influence the already modified hydrologic patterns.

(O) Cumulative Impacts

Factors to consider: (1) Impacts from “other past, present, and reasonably foreseeable future actions regardless of agency or person” (40 CFR § 1508.7) (2) Impacts on and off airport property (3) Study area varies for each environmental resource

Resources:

(1) CEQ cumulative effects:

http://energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/G-CEQ-ConsidCumulEffects.pdf

In general, operations at MEM have decreased considerably in recent years. The total number of passengers moving through the airport per year has declined steadily since 2010. Therefore, when comparing present with past operations, cumulative impacts from airport operations have reduced considerably. The reduction in passenger traffic at the airport has had a secondary effect on surrounding businesses as well, and in general economic activity in the area was negatively affected by the reduction in passenger traffic. However, MEM remains the busiest cargo airport in the country.

Improvement projects are underway at MEM, following MSCAAs long-term, multi-year modernization plan. The multiphase plan includes moving walkways, wider corridors, larger boarding areas, higher ceilings and natural lighting. The plan would consolidate airline, retail and food and beverage operations in Concourse B. The project includes the removal of the south ends of the A and C Concourses to allow for unobstructed access by aircraft to the entire B Concourse. The entire project is estimated to be completed in 5 years. Other ongoing projects include replacing the perimeter fence at MEM. The initial phase of the project is complete but areas where the fence was not improved are currently being expanded. The Passenger Boarding Bridge is currently being relocated and refurbished, and a tree clearing project south of Shelby Drive is underway at MEM. Airfield Maintenance & Operations is constructing a consolidated glycol collection pad located between the parallel runways just north of Shelby Drive, and the replacement of the airfield maintenance, warehouse, operations and police facility, also located between the parallel runways on Louis Carruthers Road, north of Shelby Drive is ongoing. The glycol collection pad project is converting a large amount of pervious area to impervious area. However, stormwater peak flow increases were demonstrated to be negligible (or within acceptable limits) for this project.

Recently completed projects at MEM include the construction of a consolidated rental car facility on a 48-acre vacant lot across Airport Boulevard from the main passenger terminal. Six buildings were constructed for rental car vehicle service, maintenance, car washing, fueling, and administration. The lot was a former residential development that was purchased and cleared by MSCAA during a past expansion of the airport. FedEx Express (FedEx) is updating and modernizing its facilities at MEM. They are replacing operations, structures and equipment that are approaching the end of their useful life with modern operations, structures and equipment to improve the efficiency of FedEx's business processes. FedEx deconstructed/demolished 24 outdated structures at MEM and constructed several new facilities. Separate NEPA compliance documents were prepared for these projects that included an analysis of the potential contribution to cumulative impacts from the consolidated rental car project and FedEx project in combination with other past, present and reasonably foreseeable projects.

There are no other known or anticipated large federal or nonfederal projects located within the area that would produce a cumulative effect on the environment in the project area. Similarly, there are no known cumulative impacts in the region to which the project would contribute.

Two foreseeable future projects at MEM include the Replacement of Taxiway Alpha (west) and the Airfield Signage Program, both currently under design. In addition, efforts have been underway in the development of the area around the MEM as an Aerotropolis. An aerotropolis is a type of urban form that consists of a city or an economic hub that extends out from a large airport into a surrounding area. It provides the opportunity for the growth and development of distribution centers, office buildings, light manufacturing firms, convention centers, and hotels, all linked to the airport via roads, expressways, and rail lines. The Memphis Aerotropolis Airport City Master Plan was completed in April 2014. Implementation of the master plan is proposed in phases through 2050 for development of airport-support, commercial and industrial

areas and logistics. Development of an actionable Master Plan and initial implementation of the plan will promote a more livable community with the completion of a comprehensive transportation study to improve traffic circulation and will improve economic opportunity along major corridors that impede business growth. Since the beginning of the planning process, there have been several improvements projects within the Memphis Aerotropolis project area, primarily from the UPS expansion projects east of MEM, and FedEx's development of its first Temperature Controlled Warehouse Facility, both activities forecasted in the Aerotropolis Master Planning Document. Other projects include major demolition projects slated for the area, particularly large dilapidated multi-family structures. Impacts of other development projects will be based on detailed development plans which are not yet available.

As disclosed in this Short Form Environmental Assessment, there would be no significant environmental impacts from the proposed project. Overall, adverse impacts from the proposed project were found either to not occur, insignificant, or minor for most of the resources analyzed in this Short Form EA. However, due to the loss of wildlife habitat (approximately 22 acres of vegetation that includes mature trees) and loss of pervious surfaces (80% pervious to 15% pervious) long-term moderate adverse impacts on wildlife habitat and surface water due to increased stormwater runoff would occur. This proposed project along with the tree clearing project south of Shelby Drive at MEM would contribute to long-term adverse cumulative impacts on wildlife habitat. However, the wildlife habitat at MEM is not considered a high-quality habitat, and it is likely that the industrial uses at the airport has resulted in noise and other disturbances that preclude these areas from use by many wildlife species.

This proposed project along with the Airfield Maintenance & Operations glycol collection pad project would contribute to long-term adverse cumulative impacts on water quality due to increased stormwater runoff from the conversion of large pervious areas to impervious. However, stormwater peak flow increases were demonstrated to be negligible (or within acceptable limits) for the glycol collection pad project. In addition, stormwater flow from the glycol collection pad project is going to Day's Creek which is located on the west side of MEM whereas stormwater flow from the proposed UPS Expansion project is going to Hurricane Creek which is located on the east side of MEM.

Therefore, when considered together with other past, present, and reasonably foreseeable future development projects on or off the airport, federal or non-federal, the proposed action is unlikely to produce a significant cumulative effect on public health or the environment.

(P) Permits and Certifications

List all permits and certifications required to be obtained.

- UPS holds NPDES Permit TN0072940 which covers the discharge of stormwater from various outfalls located throughout the UPS Facility. If this project results in additional outfalls, then the outfalls will need to be permitted.
- Shelby County air regulations require a construction permit for emission units that have the potential to emit more than 5 tons of NOx per day. The project may require a construction permit if the final design includes equipment that would trigger this requirement.
- Construction Stormwater Permit will be required since the project will result in the disturbance of more than one acre of total land area.
- Floodplain Development Permit for the City of Memphis

(Q) Mitigation

Describe mitigation required as part of the project. Include mitigation cost and when/where mitigation will occur. Do not include best management practices (BMPs).

No significant impacts have been identified; thus, no mitigation is proposed.

(R) Public Involvement

List agencies and organizations that reviewed the proposed action.

Appendix C contains a list of agencies consulted to develop this Short Form EA and the responses from the agencies that supported conclusions in this document.

Discuss additional public involvement actions taken. Please include the name and date(s) of newspaper publications. Attach affidavit or tear sheet.

FAA public involvement guidelines require the project sponsor, the Memphis-Shelby County Airport Authority (MSCAA), to advertise a Notice of Availability of the Draft Short Form EA. The notice was published on August 24, 2019 in the local newspaper of record, *Memphis Business Journal*, giving interested parties 30 days to comment on the Short Form EA. The Draft Short Form EA was also available for review on MSCAA's website: FlyMemphis.com. See Appendix F for the affidavit of the newspaper publication. No comments were received on the Draft Short Form EA.

FAA guidelines also require agencies to provide the public an opportunity for public review of *any* plan or proposal that would encroach on the base floodplain. A Notice of Availability and Public Explanation of a Proposed Activity in a 100-year Floodplain will be published in the *Memphis Business Journal* and the affidavit of the newspaper publication will be included in Appendix F.

REFERENCES

- Arcadis U.S., Inc. 2014. Phase I Environmental Site Assessment. MSCAA Option Parcels A & B. January 14, 2014.
- Arcadis. 2019. Personnel communication with Denise Dixon. Email dated July 9, 2019.
- Brophy-Heineke & Associates, Inc. (Brophy-Heineke). 2019. UPS Oakhaven Distribution Facility Expansion Wetland Investigation Report. June 28. Prepared by Jennifer Morrison for Pickering Firm.
- Copperhead Environmental Consulting, Inc. (Copperhead). 2014. Indiana bat (*Myotis sodalis*) Habitat for the UPS Oakhaven Expansion, MSCAA Option Parcels A and B. 2 May 2014.
- Pickering Environmental Consultants, Inc. (Pickering). 2004. Phase I Environmental Site Assessments (ESAs) were prepared by in 2004.
- . 2019. UPS Oakhaven Distribution Facility Expansion Wetland Investigation Report. June 28. Prepared by
- U.S. Fish and Wildlife Service (USFWS). 2015. Northern Long-eared Bat Sites in Tennessee and Within 20 Miles. October 2.
- . 2019. List of threatened and endangered species that may occur in your proposed project location and/or may be affected by your proposed project. Consultation Code: 04ET1000 2019-E-012698. June 18.

APPENDICES

Appendix A – Figures

- 1 – Project Location
- 2 – Proposed Project
- 3 – Habitat Areas
- 4 – Floodplains
- 5 – Location of Wetlands

Appendix B - Air Emissions Inventory Report

Appendix C – Agency Consultation and Other Correspondence

Consultation Letters were sent to the Following Agencies

United States Army Corps of Engineers
U.S. Fish and Wildlife Service
Federal Emergency Management Agency
Tennessee Department of Environment and Conservation
Division of Solid Waste Management

Division of Underground Storage Tanks
Division of Water Resources
Tennessee Historical Commission - State Historic Preservation Office
Tennessee Wildlife Resources Agency
Tennessee Emergency Management Agency
Shelby County Health Department
Memphis and Shelby County Office of Planning and Development
City of Memphis Public Works Division

Other Correspondence

Anglin Drywall Tank Removal Documentation
Aviation Facilities Planned Development for the UPS Distribution Facility Approval

Appendix D – Section 4(f) Analysis

Appendix E – Floodplain Analysis

**Appendix F – Notice of Availability of the Draft Short Form EA and
Notice and Public Explanation of a Proposed Activity in a 100-year Floodplain**