
Memphis International Airport Terminal Modernization Project DRAFT Environmental Assessment

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

Responsible FAA Official

Date

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Appendix C: Agency Correspondence

Appendix D: Cultural Resources Alternatives Memorandum

Appendix E: Memorandum of Agreement

ACRONYMS

Advisory Council on Historic Preservation	ACHP
Americans with Disabilities Act	ADA
Area of Potential Effect	APE
Central Baggage Inspection System	CBIS
Clean Air Act	CAA
Code of Federal Regulations	CFR
Council on Environmental Quality	CEQ
Endangered Species Act	ESA
Environmental Assessment	EA
Farmland Protection Policy Act	FPPA
Federal Aviation Administration	FAA
Federal Emergency Management Agency	FEMA
Greenhouse Gases	GHGs
Historic American Building Survey	HABS
Memorandum of Agreement	MOA
Memphis International Airport	MEM, Airport
Memphis Shelby County Airport Authority	MSCAA
Migratory Bird Treaty Act	MBTA
National Ambient Air Quality Standards	NAAQS
National Environmental Policy Act	NEPA
National Historic Preservation Act of 1966	NHPA
National Historic Landmarks	NHL
National Register of Historic Places	NRHP
Transportation Security Administration	TSA
United States Code	USC
United States Department of Transportation	USDOT
United States Environmental Protection Agency	EPA
United States Fish and Wildlife Service	USFWS

1 PURPOSE AND NEED

The Memphis Shelby County Airport Authority (MSCAA) owns and operates Memphis International Airport (MEM, Airport) in Shelby County, Tennessee. The terminal building, which opened in 1963, is no longer adequate to meet the current capacity or functional needs for passengers. In addition, the building's design and features need to be renovated to meet seismic, safety, Federal Aviation Administration (FAA), and Transportation Security Administration (TSA) requirements. The purpose of the project is to provide passengers, airlines, TSA, and employees with a terminal space that would accommodate current and future passenger demand, meet building safety, seismic, TSA, and FAA standards, improve access in compliance with the Americans with Disabilities Act (ADA), as well as enhance passenger flow in the space while preserving the historic character of the original terminal building.

The MSCAA is preparing an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA) to document the potential social, economic, and environmental consequences of the proposed project. This chapter describes the purpose and need for the project, and the required approvals for its implementation.

1.1 Introduction

The MSCAA is an airport authority that owns and operates MEM and two general aviation airports in Tennessee, Charles W. Baker Airport in Millington and General DeWitt Spain Airport in Memphis. Memphis International Airport is in Memphis, east of downtown (**Figures 1 and 2, see Appendix A**). The MSCAA is self-funded authority and does not receive local tax revenue.¹ MSCAA can and does apply for federal and state monies to assist in funding improvements to its three airports.

The MEM terminal is composed of three buildings, Terminals A, B, and C, mezzanine structures associated with the terminals, and one "Y" shaped concourse (Concourse B). **Figure 3** depicts the terminal area. Terminal B is the original terminal structure, completed in 1963, and was designed by architect Roy Harrover (1928-2016) (then part of the firm Mann & Harrover). The terminal was expanded in 1972, adding the Terminal A and Terminal C wings to expand the terminal complex. The entire terminal complex was determined eligible for the National Register of Historic Places by the Tennessee State Historic Preservation Office (SHPO) in 2019.

The primary concourse (Concourse B) recently underwent an extensive renovation to modernize and update it from a safety perspective. In 2022, this concourse was opened and consolidates passenger gates to this area. The main terminal building, which connects to this concourse provides approximately 560,000 square feet of space on four levels: Tunnel Level, Apron Level, Concourse Level, and Mezzanine Level.

In its current configuration, the terminal building is undersized and does not meet the existing and future needs of the Airport for its employees or passengers. MSCAA's current master planning effort (in progress) has defined the improvements that are required to provide an efficient and modern airport facility that would accommodate future demand through 2042 and beyond. Regarding MEM's passenger terminal complex, MSCAA's focus is to ensure that the terminals can accommodate future demand, meets current

¹ Memphis-Shelby County Airport Authority. <https://flymemphis.com/leadership/>; <https://flymemphis.com/charleswbakerairport/>. Accessed January 19, 2022.

building codes, reflects modern airline operations/passenger needs, and contributes to MSCAA's sustainability goals.

MEM is an economic generator for the Memphis area, with cargo and passenger operations. Passenger operations and the terminal complex is essential to serving all Memphians, including a variety of businesses. Maintaining the assets of MEM is a primary focus of the MSCAA to ensure that they can meet the needs of the traveling public, FedEx, and many other tenants now and in the future. The terminal modernization project is pivotal to the efficient and safe use of its terminal building, while also enhancing and improving the passenger experience by reducing passenger congestion as peak times and developing aesthetic improvements that enhance the historic character of the facility.

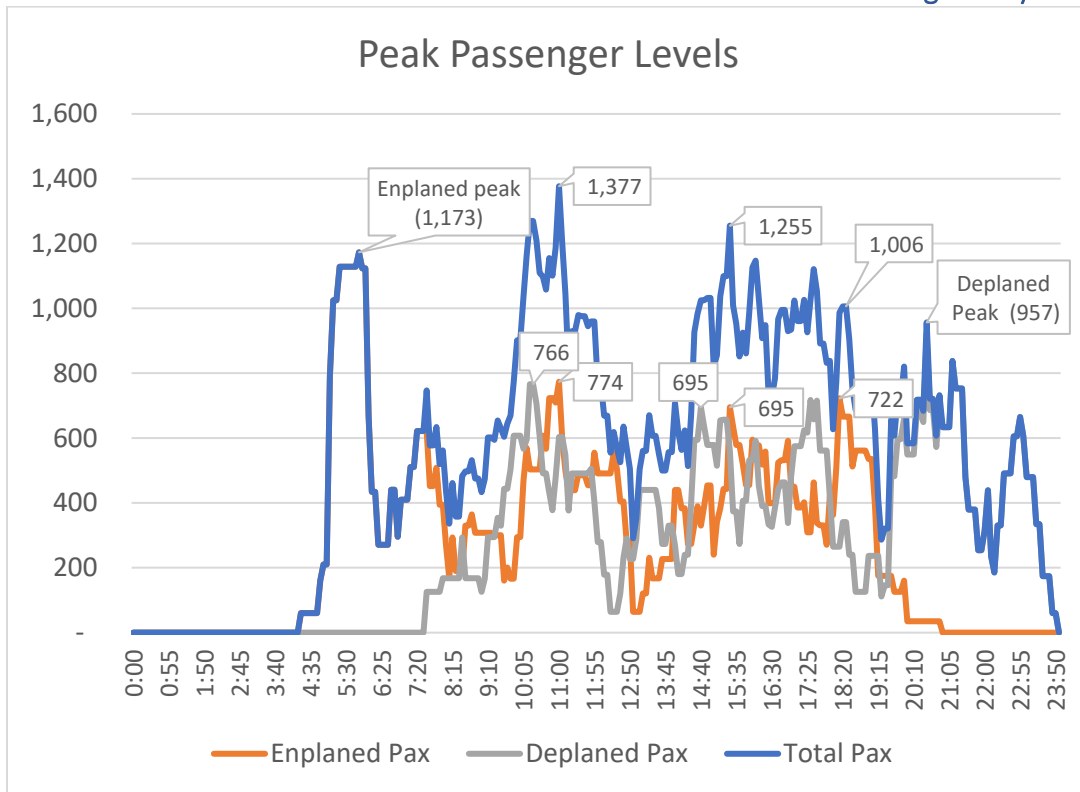
1.2 Project Setting and Proposed Activities

The project (also referenced as the Terminal Modernization & Seismic Program (TMSP)) would achieve these goals. This compilation of modifications would bring the building up to modern seismic resiliency and life safety standards. Modifications include the reconfiguration of the space to (1) eliminate congestion that, during peak times, results in safety concerns, (2) improve Americans with Disabilities Act (ADA) accessibility, and (3) serve modern airline, TSA, and other tenant operations. The measures to accomplish these goals would also enhance and improve the passenger experience, while also ensuring that the improvements preserve and enhance the historic character of the facility.

Today, the Airport accommodates approximately 2 million passengers and anticipates that will grow to 3.3 million by the end of 2037, as the planning horizon of the Master Plan.² Peak hour enplanements routinely approach 1,000 passengers, and at various timeframes throughout the day (**Exhibit 1**). The highest peak of approximately 1,400 enplanements typically occurs between 11am and 12pm. Other peaking timeframes occur between 5 and 6am (1,173), 3 and 4pm (1,255), and 5 and 6pm (1,006).

² The planning horizon for the Master Plan is through 2037.

Exhibit 1-1 Rolling Hourly Passenger Levels



The passenger security screening checkpoint, elevator/escalator capacity, baggage systems and overall passenger circulation areas all do not meet today’s demand levels or the anticipated future growth. During each of these peak times, the terminal building’s internal layout does not effectively accommodate this demand, presents safety concerns, and does not reflect a modern level of passenger experience and efficiency for airlines, the TSA, and other tenants. Specifically, the terminal ticketing level becomes highly congested. The security screening checkpoint and ticket counter line queues routinely back-up into the lobby, which impact circulation areas, particularly the exit/entry points for the escalators and stairs to/from the baggage level. During these times, passengers back up into the escalators, which creates safety concerns for those in line as well as the passengers arriving to the area via the escalator and staircase.

Other deficiencies exist in the building due to the overall need for more space within the building and the impediments to passenger flow resulting from the location of the escalators, ticket lobbies, and the overall interior layout of the building. It was not designed to accommodate the passenger levels experienced today, the estimate growth of the next 20 years, the operational needs of modern airline industry, or modern security processes and requirements.

For the MSCAA to continue to operate from the existing terminal, a reconfiguration of the interior of the terminal building is required, including an increase to the building’s interior square footage. The project includes the following elements, which are depicted on **Figures 4 and 5** and some conceptual renderings are included in **Appendix B**.

- Terminal Space Expansion and Reconfiguration: The terminal building face would be expanded to encompass 60,000 square feet of additional interior space to the north. The new indoor space created

would occur within the existing building's structural columns/roof line that currently overhang the curbside lanes. The two vehicle travel lanes currently used for drop-off and pick-ups on both levels would be repurposed as the interior space, with the façade relocated to the north.

- Relocation of the façade - The façade would be moved north to create additional interior space. The reconstructed façade would maintain its current look and major characteristics of glass window and brick. However, some brick would be replaced with windows for better visibility of the primary historic architectural elements of the building (columns and roof line). Modern materials would replace the existing windows, resulting in the use of a safer, more seismic-resilient glass that would be more energy efficient. The glass windows would be replaced with modern, seismic resilient panes, which would mirror the existing look to the extent technology allows.
- Relocation and expansion of the vertical circulation (escalators and elevators) - Each of the three terminals has a vertical escalator core in the center of the ticket lobby/bag claim. These cores would be consolidated to two new cores located on the north side of the building, in the expansion space. Elevator banks would be centralized to be easily accessible for ADA and other users, and the size and number of elevators would meet current modern airport terminal standards.
- Removal of mezzanine connector at north face of building - Currently the mezzanines flanking Terminal B are connected by two catwalks, one at the north face of the building and one at the south edge. With the relocation of the north façade and vertical circulation cores, the north catwalk would not be replaced.
- Central Baggage Inspection System (CBIS) - Modern baggage inspection processes would be constructed in the lower level of Terminal A. This type of system is the standard for the TSA, providing the highest level of efficiency and security. This system would also be required to meet future demand levels.
- Expansion of the security checkpoint – The existing security checkpoint would be expanded in the middle of the terminal building to meet future demand and modernized to accommodate current TSA processes and procedures.
- Ticketing reconfiguration – Ticket counters would be consolidated on either side of the expanded security screening checkpoint with modern check-in kiosk areas and accommodations for self-bag drop.
- Baggage claim reconfiguration – The baggage claim area would be expanded to accommodate two new baggage belts. One of these would be located in the centralized vertical core (on the lower level of Terminal B) and the other unit would be located to the east.
- Employee screening – A dedicated employee security screening area would be created to accommodate the anticipated mandate that employee security screening be separated from passenger screening.
- Departure level curbside canopy – To protect departing passengers from the weather elements when being dropped off on the curb, a canopy would be constructed covering the resulting curbside lanes of the roadway after the façade relocation.
- Federal Inspection Service (FIS) facility – A new Federal Inspection Service facility would be constructed in the lower level of Terminal C to adequately accommodate international arrivals, configured such that the baggage claim carousel and aircraft gate can flex between international and domestic operations.

- Code and Safety Upgrades:
 - Seismic - A primary goal of the project is to seismically upgrade the terminal to meet modern standards. A recently completed Seismic Risk Assessment concluded that the martini glass shaped structure would not withstand a significant seismic event and therefore, continued use of the facility would require modifications to seismically protect the building.
 - Fire Protection - Sprinklers would be installed in the historic portion of the terminal area. These devices have been systematically installed in other building sections as they have been renovated in lieu of bringing the entire building up to code at once.

Collectively, the proposed activities would modernize MEM’s terminal facilities to ensure seismic resiliency, meet future demand, improve the customer experience, ensure flexibility as operations evolve, and modernize ADA access.

During construction, access to the terminal would be via public roads, such as Winchester Road and Cargo Road. Once on-airport, the primary access to the project would be from internal roadways only used by airport and tenant employees and passengers. Staging is expected to occur fully within airport property, in the area of the closed Concourse C. The project is considered the footprint of the existing terminal and the first drop off/pick up vehicle travel lane adjacent to the existing terminal building for both the upper and lower levels. This area is already developed and consists of current airport facilities. Construction is anticipated to begin in September 2023 with completion approximately five years later in 2028.

1.3 Project Purpose and Need

The purpose of the project is to provide passengers, airlines, TSA, and employees with a terminal space that would accommodate current and future passenger demand, meets building safety, seismic, TSA, and FAA standards, as well as enhance passenger flow in the space while preserving the historic character of the original terminal building.

The project is imperative to the efficient and safe use of MEM’s existing terminal buildings. The need for terminal modernization also includes providing flexibility to react to evolving passenger processing flows, modernization of baggage inspection, more efficient and expanded security screening, more efficient vertical circulation, and remote passenger processing.

The following provides more detail regarding the need for each component of the Proposed Action. These components work together to accomplish the goals of the project,

- Terminal Space Expansion and Reconfiguration
 - Relocation of the façade – The existing building is not deep enough from the north to the south, to accommodate a modern airport layout and operational needs. It does not allow for the expansion of the TSA security area to add modern security equipment and does not allow for more modern equipment, such as self-serve kiosks and ticket counters, to be reconfigured in a way that increases passenger queuing areas or to ease current passenger congestion issues. Relocating the façade of the building north is the only viable option that would preserve the existing building in order to add the additional 60,000 square feet of interior space needed to meet the current and future demand and passenger flow needs.
 - Relocation and expansion of the escalator and elevator cores - Currently, each of the three terminals has a vertical escalator core in the center of its ticket lobby/baggage claim area. These locations in the ticket lobby are a major contributor to the congestion experienced during peak

times when passenger queues from security and the ticket counters block the escalator landings and cause other passenger flow challenges. Likewise, elevators are inefficient for existing and future demand, as they are awkwardly located and not easily found by passengers. Elevator banks will be centralized to be easily accessible for ADA and other users and of the size and number to meet modern airport terminal standards. The expanded terminal space and movement of these facilities allows more efficient vertical transitions up to ticketing or down to the tunnel level.

- Removal of mezzanine connector at north face of building – The two catwalks are not required; thus, the north catwalk will not be replaced, as that wall would be moved to expand the façade and the new wall would be composed primarily of windows.
- Central Baggage Inspection System - There is not enough area within the ticket lobby to continue screening bags in this manner during peak times and in anticipation of the growing passenger activity. This modern baggage inspection process moves bags to a central area outside of the passenger security area for automated screening and distribution. This modernizes and streamlines the operations of the ticketing area related to baggage handling.
- Expansion of the security checkpoint - Expanding this area is required to meet TSA throughput metrics and accommodate newer technology. It will improve capacity, flexibility, and efficiency of security screening. Based on information from TSA, the total throughput per hour at MEM is 1,460 passengers today, which barely accommodates existing demand levels at peak times, and would not accommodate the anticipated future passenger levels.

According to the baseline 2017 demand estimate, MSCAA requires 12,600 square feet to accommodate today's TSA standards for appropriate queue areas, automated screening lanes, more efficient x-ray scanners, walk-through security lanes, and other technological improvements. In order to plan for the forecast of passenger use through 2042 and beyond, demand will warrant a checkpoint area of approximately 21,000 square feet. Today the security screening check point encompasses only approximately 14,000 square feet of area. More terminal space is required.

- Ticketing reconfiguration - Passenger processing has evolved to a more automated and touch free experience. Self-check in kiosk areas and self-bag drop are two examples of facilities that cannot be accommodated without a reconfiguration and modernization of the MEM terminal ticket lobby areas.
- Baggage claim reconfiguration - The expansion of bag claim capacity is required to meet future demand. Relocation of the façade and relocation of the central vertical core is required before additional bag claim devices can be added. Furthermore, the relocated façade for terminal expansion would allow for more needed space for passengers and greeters to congregate around their baggage carousel.
- Employee screening - It has been communicated to MSCAA by the TSA and FAA that 100 percent screening of airport employees entering the secure area would be required in the future. In response, a dedicated employee security screening area will be created to accommodate this future mandate.
- Departure level curbside canopy – A canopy would be constructed covering the inner two lanes of the roadway to protect passengers from the weather, improving the passenger experience.
- Federal Inspection Service (FIS) facility - MEM's existing facility is antiquated and does not meet current standards. A new Federal Inspection Service facility would be constructed to adequately accommodate international arrivals, with both the international baggage claim device and gates, which could also supplement domestic operations, as needed.

- Code and Safety Updates:
 - Seismic – The Airport is located on the New Madrid Fault Zone. Continued use of the facility requires it to be seismically protected and would need to be modified even if terminal façade was not relocated for building expansion.
 - Fire Protection - National Fire Protection Association and local fire codes include requirements for sprinkler systems and sprinklers need to be installed in the Terminal B section of the building for compliance.

1.4 Required Approval

The project was initially considered under a Categorical Exclusion, specifically referenced in FAA Order 1050.1F, Section 5.6-4(n): *n. Minor expansion of facilities, including the addition of equipment such as telecommunications equipment, on an existing facility where no additional land is required, or when expansion is due to remodeling of space in current quarters or existing buildings. Additions may include antennas, concrete pad, and minor trenching for cable (ATO, AST).* However, the terminal building (which is subject to these improvements) was determined eligible for the National Register of Historic Places by the Tennessee State Historic Preservation Office (SHPO) in 2019. Therefore, the FAA has determined that an Environmental Assessment (EA) be prepared to evaluate proposed activities.

This EA was prepared in accordance with the NEPA; Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 CFR Parts 1500-1508); FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures* (FAA Order 1050.1F);³ FAA Order 5050.4B, *NEPA Implementing Instructions for Airport Actions* (FAA Order 5050.4B);⁴ and the associated FAA 1050.1F Desk Reference (FAA Order 1050.1F Desk Reference).⁵

³ Federal Aviation Administration. Order 1050.1F, *Environmental Impacts: Policies and Procedures*. July 2015.

⁴ Federal Aviation Administration. Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*. April 2006.

⁵ Federal Aviation Administration. *1050.1F Desk Reference*. Version 2, February 2020.

2 PROJECT ALTERNATIVES

During the planning process, MSCAA evaluated multiple alternatives that could serve the various safety and passenger needs identified for this project. This chapter describes the alternatives identified by MSCAA and how they were evaluated to best fulfill the purpose and need of the project.

2.1 Alternatives Considered

A range of concepts were considered for the project and represent variations on how an alternative could provide the adequate space, provide ease of access and enhance passenger compliance, comply with construction requirements and standards, as well as be affordable while preserving the character of the existing terminal's historic features. The following five alternatives were considered. In addition, a No Action Alternative was reviewed. In each case, the alternative was deemed either favorable or unfavorable when compared to other alternatives.

2.1.1 *No Action Alternative*

In the No Action Alternative, improvements to the terminal or any construction associated with the terminal complex would not be implemented. The current building would remain in its current condition and continued to be used for passenger access, ticketing, security, and baggage claim as currently configured.

As previously identified, the current passenger terminal complex cannot accommodate the future passenger demand of the Airport nor the operational requirements of the airlines, TSA, and other tenants. Therefore, passenger flow conditions in the ticketing and security areas during peak times as well as the overall customer experience would continue to degrade as the number of passengers increase based on forecasted growth. This alternative would not meet the project's purpose and need and therefore was not considered as the preferred alternative.

2.1.2 *Alternative A – Renovation in Current Footprint*

Alternative A considered renovating the terminal within the existing structure and footprint (see **Figure 6**). No building expansion would occur. To continue using the space, construction would be phased, with the demolition and renovation occurring in sections.

While utilizing the existing structure would be less expensive overall and may be received better by those who want the historical terminal building not to be altered, the interior would still need to be modified and reconfigured to alleviate the passenger flow and congestion issues, as well as upgrade components for TSA, building safety, and FAA guidelines. While the escalators and stairs could be moved from the center of the terminal space, the north/south depth of the building still would not allow for the space to be reconfigured to meet the other needed upgrades and modernization of facility activities, such as an expanded TSA check point area with modernized security equipment and self-check in kiosks. In addition, the overall footprint of the building also does not lend itself to improving the design and flow for passengers, especially regarding queuing for TSA and airline ticket counters during peak travel times. Additional space would be needed to relocate critical elements that would be necessary in order to improve usability of the terminal. Therefore, Alternative A would not meet the project's purpose and need and therefore was not considered as the preferred alternative.

2.1.3 Alternative B – New Terminal in New Location

Alternative B considered moving the terminal functions to a new structure and location on the northwest side of airport property. Additional land areas are not available other than this section of the airport property, as all other airport property is accounted for and/or occupied by specific tenants such as FedEx, Fixed Based Operators (FBOs), and maintenance areas (see **Figure 7**). Therefore, the only feasible location for a new terminal would be in the area currently occupied by the short-term vehicle parking garage, located north of the existing terminal building (see **Figure 8**). This alternative would result in the demolition of the current terminal building in order to replace the loss of short-term parking due to the new terminal building, which has had portions upgraded and modernized as part of previous projects, including the new concourse that opened in 2022. The new terminal location would be farther from the newly renovated concourse, requiring additional walkways with longer walking distances to aircraft gates for pedestrians. Since the alternative would result in a loss of the historic terminal building, which MSCAA would like to preserve as much as possible, and result in less than optimal passenger experience, due to longer walking distances, this alternative was not selected as preferred.

2.1.4 Alternative C – Demolition and Build on Current Site

Alternative C considers the demolition of the current passenger terminal complex and then rebuilding it within its current site with a modified footprint (see **Figure 9**). This alternative would result in the most operationally efficient space, which would be close to the newly modernized concourse as well as provide the best passenger experience, as the space would be designed to optimize passenger flow and minimize any congestion during busy times. Alternative C is beneficial from a cost perspective compared to other alternatives, however, would result in the loss of the historical terminal structure. Demolishing the building would cause the loss of the martini glass architecture and all its features, and therefore, this alternative was not selected as preferred.

2.1.5 Alternative D – New Terminal Addition to North

Alternative D considers creating an addition to the north of the current terminal building to work in tandem with the existing terminal to preserve the historic building while accommodating the required modifications to achieve project goals. The new addition would be located north of the existing terminal, in the space currently occupied by an active parking garage. This alternative would require removing the north face of the existing terminal building to connect to this addition (see **Figure 10**). This would result in altering the historic building, but could preserve the martini glass columns as part of the terminal's interior.

The addition would allow ticketing and baggage to be relocated to those areas, freeing up space in the existing terminal, to be used for the expansion of security and better passenger flow. However, this alternative is operationally awkward and would also alter an active parking garage where parking capacity is needed. The Airport does not have readily available space where this parking could be replaced. The construction of a new building, a connection to the existing terminal building, and acquiring space and constructing replacement parking would be cost prohibitive. The location of the addition would block the view of the historically significant martini glass columns from the outside and some elements of the historic building would be altered. The escalators would still be moved in order to allow passenger flow through the center of the terminal space and any remaining glass would need to be replaced to comply with seismic standards. The north catwalk along the wall would also be removed. The columns would remain but would not be visible from the outside. Due to the substantial alteration and impacts to the historic structure, the resulting obstructed view of the historic features of the building, as well as the loss of parking, this alternative was not selected as preferred.

2.1.6 *Alternative E - Renovation, with Façade Expansion, in Current Footprint – Preferred Alternative*

Alternative E includes the renovation of the existing building with an expansion of the building to the north. The existing building would be preserved and modernized while maintaining the existing access to the recently completed concourse by passengers. The existing façade on the north side of the building would move farther north by approximately 24 feet, which would allow for an additional 60,000 square feet of usable interior space. The expansion would remain within the existing terminal’s roofline footprint, minimizing impacts to the historical look and characteristics of this side of the building. This would allow for enough space to reconfigure key elements of the building without the demolition of the current building or relocating and constructing a completely new structure (see **Figure 11**). Using the current building and remaining it this footprint would also preserve the passenger convenience of short walking distances to the concourse and gate area.

2.2 Evaluation Criteria

An alternatives screening process was established to determine whether the candidate alternatives would fulfill the Project’s purpose and need to develop a terminal space that would accommodate current and future passenger demand, meets building safety, seismic, TSA, and FAA standards, as well as improve passenger flow and congestion, while preserving the historic character of the original terminal building.

MSCAA determined an alternative would be preferred if it provides the adequate amount of space for all the required project elements, minimize impacts to the historic terminal building, improves passenger and congestion flow, and enhances the passenger experience. Using the Project’s purpose and need along with these considerations, the MSCAA developed the following criteria with which to evaluate the alternatives:

- **Building Size/Space Requirements** – Does the proposed alternative allow for enough space to meet existing and future demand of passengers, including at peak times? Does the space have the capacity for the efficient layout of modern safety, structural, and TSA- and FAA-required elements?
- **Preservation/Utilization of Existing Structure** – Does the proposed alternative preserve and/or utilize the existing, historic terminal building? Do impacts affect the aesthetics and historical characteristics?
- **East of Access to the Facility and Passenger Flow** – Does the proposed alternative result in the efficient flow of passengers with efficient ADA access and minimizes congestion and choke points?
- **Passenger Experience** – Does the proposed alternative provide a modern terminal that passengers expect with convenient walking distances, easy wayfinding, and opportunities for passengers to access modern amenities?

2.3 Summary

After considering multiple alternatives, the MSCAA determined that Alternative E resulted in the most favorable results with respect to meeting the evaluation criteria and has been determined as the Preferred Alternative. The Preferred Alternative was the only alternative that was deemed to provide favorable results for each of the evaluation criteria and would best achieve the Project’s purpose and need.

As summarized in **Table 2-1**, Alternatives A, B, C, and D result in either unfavorable preservation of the existing terminal building, no improvements to passenger access or congestion, or provide a modernized terminal that enhances the passenger experience. While the No Action Alternative had the least impact to the historic terminal (no modifications would be made to the structure or features), it would not provide an adequate building space to include all project components. While Alternative D would fulfill most of the

criteria, its implementation would greatly impact the existing terminal (including the views of critical historic features). While not part of these criteria, Alternative D would also impact of the adjacent parking garage, which would require additional work for MSCAA to identify and build new parking areas. Alternatives B and C would both involve demolition of the historic building and Alternative B would result in measurably longer walking distances for passengers. Therefore, Alternative E is the only alternative that would fulfill all criteria in support of the Project's purpose and need and was identified as the Preferred Alternative.

Table 2-1
Alternative Evaluation and Results

Evaluation Criteria	Range of Alternatives					
	No Action	A Renovation in Current Building	B New Terminal in New Location	C Demolish and Build New on Current Site	D Terminal Addition to the North	E Renovation & Expansion – Preferred
Building Size	No	No	Yes	Yes	Yes	Yes
Preservation/Utilization of Existing Terminal	Yes No change would occur	Yes With interior modifications	No Structure would be demolished to reconstruct short-term parking garage	No Structure would be demolished	Yes However, substantial changes would occur; removal of key features and north wall; obstructing views of other features;	Yes Modifications would be made; historic elements would remain or be upgraded and mirror historic aesthetics
Ease of Access and Passenger Flow	No Conditions would not change	No Escalators could be moved; other configuration limitations in the space would prevent improved passenger access and flow	Yes	Yes	Yes	Yes
Passenger Experience	No Conditions would not change	No Not all components could be implemented; terminal complex would not result in optimal passenger experience	Yes However, passenger experience would not be optimal with longer walking distances	Yes	Yes	Yes
Red shading indicates an unfavorable result; Yellow indicates less than optimal or favorable result; Green shading indicates a favorable result.						

2.4 Alternatives Considered in this EA

Alternative E is the only alternative that would fulfill all criteria in support of the Project’s purpose and need and was selected as the Preferred Alternative for further consideration. The No Action Alternative was retained for detailed evaluation in the EA for comparative purposes pursuant to relevant FAA guidance. Therefore, this EA considers a No Action Alternative and the Preferred Alternative (Alternative E) that would implement proposed activities as described in **Chapter 1**.

3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter identifies the natural and human environment within the Project’s area of study (the “Affected Environment”) as well as the anticipated environmental effects from the implementation of the evaluated Preferred Alternative (“Environmental Consequences”). FAA Order 1050.1F and its associated Desk Reference states the affected environment section of the EA should document existing environmental conditions of the Project’s area of study (project area), which is the potentially affected geographic area(s) where proposed activities would occur. The environmental consequences analysis should include consideration of the direct and indirect effects of the build alternative(s) as well as the significance of these effects.

3.1 Project Area

The project area includes locations that may be affected by a project’s direct impacts and/or the consequences of the implementation of those actions (indirect impacts). The project area for the proposed activities is the footprint of the existing terminal building at MEM and the first drop off/pick up vehicle travel lanes for passengers that are north of, and adjacent to, the existing terminal building for both the upper and lower levels. This area is already developed and consists of current airport facilities.

3.2 Resource Categories Not Applicable

Due to the nature of proposed activities and the project area’s location, several resource categories are not relevant and/or not present. The project involves the expansion of an existing building used by passengers and staff on-airport within a previously developed, paved area.

3.2.1 Biological Resources

The project would take place primarily indoors and within a previously disturbed (i.e., paved) area. Therefore, no ecological communities or trees would be impacted by the project.

Project activities would not be expected to impact birds protected by the Migratory Bird Treaty Act (MBTA), habitat, or their behaviors in or around the project area, as the area is developed and highly trafficked, and only urban tolerant bird species, not protected under the MBTA (e.g., European starling [*Sturnus vulgaris*], pigeon [*Columba livia*], house sparrow [*Passer domesticus*]) would be expected to occur in the immediate vicinity of the work area. Habitat for other wildlife is limited to the built environment (i.e., buildings, etc.), and any species occurring within the project area would be limited to common urban-tolerant opportunistic species. Any displacement of these species during construction would not result in an adverse impact to wildlife of the area, as any species occurring in the immediate vicinity of the construction area would be expected to relocate to similar habitats nearby. These same species would be expected to return to the project area after construction is complete. Therefore, wildlife and other biological resources would not be adversely impacted by the project.

The project area is in a developed area that does not contain any habitat for fish or other aquatic biota and therefore would not affect these resources. Therefore, no further review of fish and aquatic biota is required.

The United States Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) system (reviewed on June 22, 2022), shows that federally listed Indiana Bat, northern long-eared bat, and monarch butterfly (candidate species) are listed as occurring in the area; however, no critical habitats are present. The Tennessee Natural Heritage Program Database (reviewed on June 22, 2022) shows that there are 26 records of state-designated threatened, endangered, in need of management, rare, or special concern species (plants, fish, and wildlife) in Shelby County. However, there is no habitat for these state-listed species in the project area. Impacts are not anticipated in the project area for threatened or endangered species, as there are no known occurrences or habitat for federally or state listed species present, and the project would not result in tree clearing or disturbance in any habitats as the project would be constructed on paved areas. Therefore, the project would have "No effect" on threatened and endangered species. Therefore, no further review under Section 7 of the Endangered Species Act (ESA) is required.

3.2.2 *Farmlands*

The entire airport property, including the project area, is classified as "urbanized area." These areas are largely developed with urban and suburban uses and therefore the Farmland Protection Policy Act (FPPA) does not apply (**Figure 12**).

3.2.3 *Hazardous Materials, Solid Waste, and Pollution Prevention*

There are no known existing hazardous materials or hazardous waste sites that would be impacted by the project or within the project area.

If hazardous materials, asbestos containing materials, petroleum spills, or any soils excavated during demolition or construction that show evidence of hazardous material contamination are encountered at the site during construction, the appropriate governing agencies would be contacted for proper remediation. An asbestos survey of all materials included as part of the project would be conducted prior to the bid process and noted on bid documents for a licensed contractor to abate prior to start of construction. If encountered, all abated asbestos-containing materials will be disposed of properly, in accordance with local, state, and federal regulations.

Most work would result in minor levels of solid waste. All wastes produced throughout this project will be disposed of properly or recycled, if possible, offsite. Universal waste generated, such as lightbulbs, will be recycled offsite. There will be, however, several large pieces of equipment (i.e. escalators) that would need to be disposed of, which contain hydraulic oil. When handling, replacing, or removing this type of equipment, the contractor will be asked to remove oil first and dispose of it properly before any further work takes place.

3.2.4 *Land Use*

The project does not involve land acquisition or alteration of land use.

3.2.5 *Natural Resources and Energy Supply*

Energy supply within the vicinity of the project area include suppliers of Memphis-Shelby County public utilities such as power plants, water suppliers, sanitary and sewage disposal utilities, and natural gas and petroleum suppliers. The project would not place any substantially new demand on local public utilities or

the energy supply in the vicinity of the project area. All project elements would be constructed on paved areas and no vegetation would be removed. Therefore, the project would not diminish the natural resources in the project area.

3.2.6 Noise and Compatible Land Use

The temporary nature of construction noise associated with terminal renovations would be short-term and would occur in phases. Minor heavy equipment for the exterior work would occur in the first year of construction, and then work would be limited to indoors. Most of the work is interior, which would not require foundation work. In addition, there are no sensitive receivers that would be affected within the project area.

Aircraft activity will not be altered because of this project and therefore an aircraft noise analysis is not required.

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

There are no residential properties within the Airport or project area. Construction would occur within the project area, on airport property, and would not affect neighborhoods or communities.

Based on current demand observed by the Airport's staff and planners, roadways provide more than adequate capacity in the drop-off and pick up areas, where there would be a reduction in lane availability. Traffic associated with construction would not travel through the drop off and pick up areas in front of the terminal and would not contribute to any traffic congestion. There will be reduced travel lanes available in front of the terminal building and some backup may occur during peak periods in the lanes leading up to the terminal, but that would be only several hundred feet behind the terminal entrance and would not occur on any local roads. In addition, staff would manage the flow of traffic in that area during the construction phase of the terminal face extension.

While there would be no permanent road closures or relocations, travel lanes would be reduced in front of the terminal building. The road alignment in this area would remain as it is currently, with the two outer lanes (furthest from the terminal building) remaining in use. This reduction in travel lanes is acceptable and would not create unacceptable levels of congestion.

3.2.8 Visual and Light Emissions

Any light emissions resulting from the renovations would be limited to the project area and would be comparable with existing terminal/building light emissions. Project activities would not affect the surrounding areas or communities nearby, as light sensitive receivers are more than ¼-mile away from the project area.

The proposed design for the project is in keeping with the visual and aesthetic characteristics of the existing terminal structure and would not obstruct the view of the historic features from either the inside or outside of the building.

3.2.9 Water Resources

3.2.9.1 Coastal Resources

Coastal resources include coastal barriers and coastal zones. Coastal barriers and zones are not located within the project area and therefore would not be impacted by this project.

3.2.9.2 *Wetlands and Surface Waters*

There are no wetlands present in the project area. According to the National Wetland Inventory reviewed as part of this evaluation, NWI-mapped freshwater wetlands are shown at the southeast corner of the Airport, outside of the area of proposed activities (**Figure 13**). A site visit confirmed there is no water or potential wetland resources in the project area.

3.2.9.3 *Floodplains*

There are 100-year (1 percent chance of flooding) and 500-year floodplain (0.2 percent chance of flooding) (**Figure 14**) floodplains within the Airport property. However, the project area does not occur in any floodplain zones. Furthermore, the project would take place mostly indoors or in developed areas (i.e., paved) immediately around the existing terminal building. Therefore, floodplains would not be impacted by the project.

3.2.9.4 *Groundwater*

The project would occur within previously improved areas, and these types of resources are not present in this area. Therefore, groundwater would not be impacted by the project and no further review of groundwater resources is required.

3.2.9.5 *Wild and Scenic Rivers*

Based on a review of the National Park Service, Nationwide Rivers Inventory, there are no wild or scenic rivers in the project area and, therefore, would not be impacted by this project.

3.3 Resources Present

The following resources are present in the project area or could be affected by implementation of the Preferred Alternative. The analysis identifies the potential effects of the Preferred Alternative based on changes in the resource that would occur with implementation of the project and would not occur with the No Action Alternative. Construction impacts are discussed within each resource category. The primary statutes, regulations, executive orders, and other guidance related to the evaluation of the resources present in the project area for the project are detailed as part of FAA Order 1050.1F and its associated Desk Reference.

3.3.1 *Air Quality*

3.3.1.1 *Affected Environment*

Air quality is affected by air pollutants produced by both motor vehicles and stationary sources. Emissions from motor vehicles are referred to as mobile source emissions, while emissions from fixed facilities are referred to as stationary source emissions. Ambient concentrations of carbon monoxide (CO) are predominantly influenced by mobile source emissions. Particulate matter (PM), volatile organic compounds (VOCs), and nitrogen oxides (nitric oxide [NO] and nitrogen dioxide [NO₂], collectively referred to as NO_x) are emitted from both mobile and stationary sources. Fine PM is also formed when emissions of NO_x, sulfur oxides (SO_x), ammonia, organic compounds, and other gases react or condense in the atmosphere. Emissions of sulfur dioxide (SO₂) are associated mainly with stationary sources, and some sources utilizing non-road diesel such as large international marine engines. On-road diesel vehicles currently contribute very little to SO₂ emissions since the sulfur content of on-road diesel fuel, which is federally regulated, is extremely low. Ozone is formed in the atmosphere by complex photochemical processes that include NO_x and VOCs. Ambient concentrations of CO, PM, NO₂, SO₂, ozone, and lead are regulated by the U.S. Environmental Protection Agency (EPA) under the Clean Air Act (CAA) and are referred to as “criteria pollutants.” Emissions of VOCs, NO_x, and other precursors to criteria pollutants are also regulated by EPA.

As required by the CAA, primary and secondary NAAQS have been established for six major air pollutants: CO, NO₂, ozone, respirable PM (both PM_{2.5} and PM₁₀), SO₂, and lead. The primary standards represent levels that are requisite to protect the public health, allowing an adequate margin of safety. The secondary standards are intended to protect the nation’s welfare, and account for air pollutant effects on soil, water, visibility, materials, vegetation, and other aspects of the environment. The primary standards are generally either the same as the secondary standards or more restrictive.

The most recent concentrations of all criteria pollutants at EPA air quality monitoring stations nearest to the project area are presented in **Table 3-1**. As shown, the recently monitored levels for all pollutants do not exceed the NAAQS.

Table 3-1
Representative Monitored Ambient Air Quality Data

Pollutant	Location	Units	Averaging Period	Concentration	NAAQS
CO	Memphis NCORE Site, Memphis	ppm	8-hour	1.5	9
			1-hour	2.5	35
SO ₂	Memphis NCORE Site, Memphis	ppb	3-hour	2.5	500
			1-hour	2.8 ⁽¹⁾	75
PM ₁₀	Memphis NCORE Site, Memphis	µg/m ³	24-hour	34	150
PM _{2.5}	Memphis NCORE Site, Memphis	µg/m ³	Annual	7.8 ⁽²⁾	12
			24-hour	19.6 ⁽²⁾	35
NO ₂	MARION, Arkansas	ppb	Annual	6.0	53
			1-hour	36.8 ⁽³⁾	100
Ozone	Memphis NCORE Site, Memphis	ppm	8-hour	0.069 ⁽⁵⁾	0.070

Notes:
+ Indicated values exceeding the NAAQS.
⁽¹⁾ The 1-hour value is based on a 3-year average (2020–2022) of the 99th percentile of daily maximum 1-hour average concentrations.
⁽²⁾ Annual value is based on a 3-year average (2020–2022) of annual concentrations. The 24-hour value is based on the 3-year average of the 98th percentile of 24-hour average concentrations.
⁽³⁾ The 1-hour and annual NO₂ values are based on a 3-year average (2020–2022) of 98th percentile of daily maximum 1-hour average concentrations.
⁽⁴⁾ Based on the highest quarterly average concentration measured in 2018.
⁽⁵⁾ Based on the 3-year average (2020–2022) of the fourth highest daily maximum 8-hour average concentrations.
Source:
EPA AirData

Effective February 3, 2010, EPA designated Shelby County as in attainment and a maintenance area for the 1997 8-hour average ozone standard. In March 2008 EPA strengthened the 8-hour ozone standards, but certain requirements remain in areas that were either nonattainment or maintenance areas for the 1997 ozone standard (‘anti-backsliding’). EPA designated the same area as a marginal nonattainment area for the 2008 ozone NAAQS. On July 25, 2016, EPA reclassified the area as in attainment and a maintenance area for the new standard.

3.3.1.2 Environmental Consequences

No Action Alternative

The No Action Alternative assumes that project activities are not implemented, and air quality would remain unchanged. Therefore, no air quality impacts would occur as a result of the No Action Alternative.

Preferred Alternative

The Preferred Alternative would be a terminal improvement project that would not increase capacity for airside or landside traffic. Most of the work would be conducted within the current footprint of the existing

terminal. Two lanes of terminal frontage would be used to expand the entrance of the building, leaving two lanes for terminal drop-off and pickup. The remaining lanes would stay within their current alignment and not be altered. Furthermore, the project would not result in additional stationary sources of pollutant emissions, nor would the project alter traffic conditions outside of the Airport. Therefore, the air quality assessment focuses on the potential air quality impacts during the construction of the proposed project.

Construction of the project would last for approximately four years. However, less than one year of construction would include the operation of heavy equipment usage to assess the roadway structure conditions of the inner lanes and structural construction of the expansion of the main terminal. The remaining construction activities will include interior renovations and would not represent significant sources of pollutant emissions. Furthermore, construction equipment staging would not occur on the approach roadway and would not result in indirect emissions associated with traffic congestion.

Roadway construction and structural construction of the expansion of the main terminal would include the usage of an excavator, skid steer, backhoe, and trencher to perform demolition and excavation within the areas of construction. Excavated material would be transported by dump trucks to an existing storage site located on airport property approximately 2.3 miles to the south of the main terminal building. Structural construction would proceed with using a mobile crane, forklift, man lift, and concrete pump truck. Throughout the construction period, several trucks would be necessary for construction activities and would include dump trucks, concrete trucks, and pickup trucks.

Construction activity would represent typical construction practices. The utilized construction equipment would also be typical of construction practices and would not include significantly large pieces of equipment or equipment with higher emission intensities. Furthermore, emissions associated with heavy equipment usage would be limited to less than one year, with the remaining construction activities including interior renovations. Consequently, emissions from the operation of the construction equipment would be well-below the federal *de minimis* thresholds of 100 tons of volatile organic compounds (VOCs) or nitrogen dioxide (NO₂), and the project is assumed to conform to the State Implementation Plan.

Additionally, the nearest sensitive receptor locations would be over 3,000 feet, with the nearest residential building located approximately 3,500 feet southwest of the project area and the Winchester Elementary School is located approximately 4,100 feet to the west of the project area. The pollutant emissions from construction activities would occur well over 3,000 feet from the nearest sensitive receptor. Construction activities are temporary and intermittent in nature. Therefore, the project would not result in an impact to local air quality conditions nearby locations.

3.3.2 Climate

3.3.2.1 Affected Environment

Because of the growing consensus that greenhouse gas (GHG) emissions resulting from human activity have the potential to profoundly impact the Earth's climate, countries around the world have undertaken efforts to reduce emissions by implementing global, regional, state, and local measures addressing energy consumption and production, land use, and other activities. The EPA is required to regulate GHGs under the CAA and has begun preparing and implementing regulations.

GHGs are those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and emit radiation at specific wavelengths within the spectrum of infrared radiation emitted by the Earth's surface, the atmosphere, and clouds. The general warming of the Earth's atmosphere caused by this phenomenon is known as the "greenhouse effect." Water vapor, carbon dioxide (CO₂), nitrous oxide (N₂O), methane, and ozone are the primary GHGs in the Earth's atmosphere.

There are also a number of entirely anthropogenic GHGs in the atmosphere, such as halocarbons and other chlorine- and bromine-containing substances, which also damage the stratospheric ozone layer (and contribute to the “ozone hole”). Since these compounds are being replaced and phased out due to the 1987 Montreal Protocol, there is no need to address them in GHG assessments for most projects. Although ozone itself is also a major GHG, it does not need to be assessed as such at the project level since it is a rapidly reacting chemical and efforts are ongoing to reduce ozone concentrations as a criteria pollutant. Similarly, water vapor is of great importance to global climate change but is not directly of concern as an emitted pollutant since the negligible quantities emitted from anthropogenic sources are inconsequential.

CO₂ is the primary pollutant of concern from anthropogenic sources. Although not the GHG with the strongest effect per molecule, CO₂ is by far the most abundant and, therefore, the most influential GHG. CO₂ is emitted from any combustion process (both natural and anthropogenic); from some industrial processes such as the manufacture of cement, mineral production, metal production, and the use of petroleum-based products; from volcanic eruptions; and from the decay of organic matter. CO₂ is removed (“sequestered”) from the lower atmosphere by natural processes such as photosynthesis and uptake by the oceans. CO₂ is included in any analysis of GHG emissions.

Methane and N₂O also play an important role since the removal processes for these compounds are limited and because they have a relatively high impact on global climate change as compared with an equal quantity of CO₂. Emissions of these compounds, therefore, are included in GHG emissions analyses when the potential for substantial emission of these gases exists. The project area is not located within the nearest potential end-of-century flood hazard zone identified by the Federal Emergency Management Agency (FEMA). Therefore, the project is unlikely to be impacted by future climate conditions related to sea level rise and flooding, and a more detailed assessment of the potential impacts of climate change on the project is not warranted.

3.3.2.2 Environmental Consequences

No Action Alternative

The No Action Alternative assumes that project activities are not implemented, and GHG emissions associated with construction would not occur. Therefore, no climate impacts would occur as a result of the No Action Alternative.

Preferred Alternative

The Preferred Alternative would not increase capacity for airside or landside traffic. Most of the work would be conducted within the current footprint of the existing terminal. Two lanes of terminal frontage would be used to expand the entrance of the building, leaving two lanes for terminal drop-off and pickup. The remaining lanes would stay within their current alignment and not be altered. Furthermore, the project would not result in additional stationary sources of pollutant emissions, nor would the project alter traffic conditions outside of the Airport. Therefore, the assessment of the proposed effects on climate change focuses on the potential air quality impacts during the construction of the proposed project.

Since there will be no mobile sources (e.g., traffic) or stationary sources (e.g., fossil-fuel fired heating, ventilation, and air conditioning systems) generated by the proposed project, the GHG emissions are primarily associated with construction. Construction emissions include emissions from on-road trips, on-site non-road engines, and embedded material emissions (emissions associated with the extraction, production, and transport of construction materials such as concrete and structural steel).

As discussed in **Section 3.3.1, Air Quality**, construction of the Preferred Alternative would last for a duration of four years. Construction activity would represent typical construction practices. The utilized construction

equipment would also be typical of construction practices and would not include significantly large pieces of equipment or equipment with higher emission intensities. Furthermore, the Preferred Alternative would not include significant quantities of concrete or structural steel and would minimize truck emissions by utilizing an existing storage site located approximately 2.3 miles from the project area. Therefore, construction would result in minimal GHG emissions associated with on-site fuel consumption and would minimize embedded emissions associated with the fabrication and transportation of building materials.

3.3.3 Historic, Architectural, Archaeological, and Cultural Resources

3.3.3.1 Affected Environment

Regulatory Framework

This EA was prepared in accordance with the procedures of Section 106 of the National Historic Preservation Act of 1966 (NHPA), as implemented by federal regulations appearing in 36 CFR Part 800, in consultation with the Tennessee State Historic Preservation Office (SHPO) and other consulting parties.

Section 106 of NHPA mandates that federal agencies consider the effect of their actions on any properties listed on or determined eligible for listing on the National Register of Historic Places (National Register) and afford the federal Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on such undertakings. Section 101(d)(6)(B) of the NHPA requires the lead federal agency to consult with any Native Nation or Native Hawaiian organization that attaches religious and cultural significance to historic properties that may be affected by the undertaking. The lead federal agency shall ensure that consultation in the Section 106 process provides the Indian tribe or Native Hawaiian organization a reasonable opportunity to identify its concerns about historic properties, advise on the identification and evaluation of properties, including those of traditional religious and cultural importance, articulate its views on the undertaking's effects on such properties, and participate in the resolution of adverse effects.

The lead federal agency, in consultation with the SHPO and appropriate consulting parties, must determine whether a proposed action would have any adverse effects on the characteristics of a property that qualify it for the National Register. Section 106 requires consultation with consulting parties, which in addition to the SHPO and ACHP, include federally recognized Native Nations/Tribal Historic Preservation Officers (THPOs) or Native Hawaiian organizations, local governments, and other individuals and organizations with a demonstrated interest in the project, whose participation is subject to approval by the responsible federal agency. The basic steps of the Section 106 process are as follows:

- All properties that may be affected by the project and that are included in or eligible for the National Register must be identified by the lead federal agency, in consultation with SHPO and any appropriate Indian tribes, Native Hawaiian organizations, or consulting parties. If properties are found that may be eligible for the NR or sites of religious or cultural significance to tribal nations, but for which no determination has yet been made, the agency consults with the SHPO and any participating Native Nations, Native Hawaiian organizations, or consulting parties to determine eligibility or ineligibility.
- If historic properties that may be affected are identified, the potential effect of the proposed project on each property must be evaluated, in consultation with the SHPO and any participating Native Nations, Native Hawaiian organizations, or consulting parties, to determine if the project would have adverse effects on them. To determine potential effects on the historic properties, the ACHP's Criteria of Adverse Effect (36 CFR § 800.5(a)(1)) must be applied, in consultation with the SHPO and any appropriate Native Nations, Native Hawaiian organizations, or consulting parties, to determine whether adverse effects would occur. In general, a proposed project is deemed to have an adverse effect if it may cause a change in the quality of the property that qualifies it for inclusion in the NR. The

ACHP, as well as the SHPO and any participating Indian tribes, Native Hawaiian organizations, and consulting parties, is notified of any findings of adverse effects.

- If the analysis indicates that the proposed project may have an adverse effect, SHPO and any consulting parties are consulted to seek agreement on ways to avoid, minimize, or mitigate adverse effects. This mitigation is typically implemented through a Memorandum of Agreement (MOA). The ACHP may choose to participate in the consultation when there are substantial impacts to historic properties, when a case presents important questions of policy or interpretation, when there is a potential for procedural problems, or when there are issues of concern to Native Nations or Native Hawaiian organizations. The ACHP must be invited to participate when the federal agency sponsoring the project wants the Council's involvement and when the project would have an adverse effect on a National Historic Landmark.
- Execution of the MOA and implementation of the terms therein satisfies the requirement of Section 106 that the ACHP be given a reasonable opportunity to comment on the undertaking and demonstrates that the federal agency has taken into account the effects of the action.

Review under Section 106 can be conducted in coordination with analyses conducted for the National Environmental Policy Act (NEPA). In addition, because the views of the public are essential to informed federal decision-making in the Section 106 process, the public should be informed about the project and its effects on historic properties and given the opportunity to comment. This public comment element can be combined with the public participation component required by NEPA. The public participation efforts being conducted for the proposed project are described in **Chapter 4**.

FAA, as the lead agency, initiated the Section 106 process with SHPO on April 19, 2022. FAA determined that based on the nature of the Proposed Project, it was not necessary to consult with Native Nations as part of the Section 106 process for the undertaking. Potential consulting parties for the project were identified in consultation with SHPO. They included the Shelby County Historian; the Memphis Area Association of Governments; the Association of the Preservation of Tennessee Antiquities; the Memphis and Shelby County Historical Commission; the West Tennessee Historical Society; Memphis Heritage, Inc.; and the Memphis Landmarks Commission. These entities were invited to serve as Section 106 consulting parties in correspondence dated July 5, 2022 (**Appendix C**). The Shelby County Historian accepted the invitation to be a Consulting Party, while no other potential consulting parties responded to the invitation.

A meeting was held on July 29, 2022 to seek and consider views of the consulting parties regarding the project's effects on historic and cultural resources. The meeting was attended by FAA, MSCAA, SHPO, and the Shelby County Historian. Historic properties within the Area of Potential Effects (APE), and the project's potential effects on historic properties were presented and discussed. The EA takes into consideration the views expressed by the SHPO and Shelby County Historian at this meeting. Consultation with the SHPO and Shelby County Historian will continue to seek input with respect to the findings, including proposed measures to avoid, minimize, and mitigate adverse effects on historic properties documented in the EA.

Methodology

A required step in the Section 106 process is determining the Area of Potential Effect (APE), which is defined as "the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if such properties exist" (36 CFR § 800.16[d]). The APE is influenced by the scale and nature of an undertaking. In general, potential adverse effects on architectural resources can include both direct physical effects—demolition, alteration, or damage from construction—and indirect effects, such as the introduction of visual, audible, or atmospheric elements that may alter the

characteristics of the historic property that qualify it for inclusion in the National Register in a manner that would diminish the integrity of the property's significant historic features. Archaeological resources are potentially affected by direct impacts from construction activity resulting in disturbance to the ground surface (including submerged ground surfaces) such as excavation, grading, pile-driving, cutting and filling, dredging, and staging. The APE for the Proposed Project was defined by FAA, in consultation with SHPO, as being limited to the Memphis International Airport Terminal, which is the same as the project area (see **Figure 2**).

Once the APE is determined, a list of officially recognized architectural resources within the APE is compiled. In general, this includes National Historic Landmarks (NHL) and properties listed on the NR or determined eligible for such listing. A list of potential historic resources within the APE is also compiled based on surveys of the APE conducted by architectural historians who meet National Park Service Professional Qualification Standards for Architectural History, codified under 36 CFR Part 61. Potential historic resources comprise districts, sites, buildings, structures, and objects that may be eligible for listing on the National Register. Criteria for listing on the National Register are found in 36 CFR Part 60. Determinations of eligibility are made by the lead federal agency in consultation with SHPO and appropriate THPOs and consulting parties. As described in 36 CFR § 800.4(c)(2), "If the agency official determines any of the National Register criteria are met and the SHPO/THPO agrees, the property shall be considered eligible for the National Register for Section 106 purposes."

Existing Conditions

The APE for the project contains no properties designated as NHLs and no properties listed on the National Register. One property, the Memphis International Airport Terminal, was previously determined eligible for the National Register by SHPO, as described in greater detail below.

The entirety of the project area was subject to extensive ground disturbance as part of the construction of the terminal and other airport infrastructure. There are no tribal lands within the project area. In consultation with SHPO, FAA determined that the APE lacks archaeological sensitivity and no further archaeological studies are necessary.

NR-Eligible Memphis International Airport Terminal

The Memphis International Airport Terminal (terminal, terminal building) was determined eligible for the National Register by SHPO in 2019 under National Register Criterion C at the local level of significance as an example of new Formalist architecture in Memphis; and under Criterion A in the area of Transportation for its association with popular commercial air travel opportunities in Memphis.

The original section of the terminal (the central section now known as Terminal B) was completed in 1963 and designed by Tennessee-based architect Roy Harrover (1928-2016) (then part of the firm Mann & Harrover). The design of the terminal received immediate recognition and was awarded a National Design Award from Progressive Architecture magazine and the National Award of Merit from the American Institute of Architects in 1964. Harrover designed the terminal to be expanded and expansion did occur in the early 1970s with the addition of east and west terminals flanking the main terminal (Terminals A and C). These terminals were also designed by Harrover in the same style. All three are considered contributing components of the NRHP-eligible historic property.

Character-defining features of the terminal design include the pioneering use of tall, concrete "martini glass"-shaped columns, which Harrover chose for their aesthetic qualities, strength, and economy. Harrover likened the arrangement of columns to an Egyptian temple. Another important feature of the

Terminal's architecture is the two-level nature of the design, allowing passengers to directly access the upper level, which communicated with the airplanes rather than needing to enter at ground level and carry their bags upstairs. An elevated access roadway was integrated into the design, running between the two outer sets of martini glass columns allowing passengers to disembark in a sheltered entry area. Harrover's design inspired subsequent architects to emulate this approach in other airports. Harrover designed the terminal to be expanded as necessary and substantial expansion did occur in the early 1970s (Terminals A and C) with the addition of east and west terminals flanking the main terminal, designed in the same style.

The terminal retains a relatively high degree of historic integrity overall; however, incremental alterations to the building have been made since the early 1970s. The most notable of these alterations was the addition of an upper outer roadway, which was constructed as part of the parking garage expansion in 1988.

3.3.3.2 Environmental Consequences

The Preferred Alternative would have no adverse effects on archaeological resources. The Preferred Alternative would result in an adverse effect on one historic architectural property: the NR-eligible Memphis International Airport Terminal.

In a letter dated May 5, 2022, SHPO commented that the Proposed Project would adversely affect the National Register-eligible Memphis International Airport Terminal (**Appendix C**). In a subsequent meeting attended by MSCAA, FAA, SHPO, and participating Section 106 Consulting Parties on July 29, 2022, SHPO staff indicated their acknowledgement of the purpose and need of the Preferred Alternative and reiterated that alterations to the historic terminal under the project would be substantial enough to constitute an adverse effect under Section 106. SHPO staff indicated that concerns included exterior alterations that would affect the historic appearance of the building's façade, including increase of the building's square footage by creating a new glass façade to the north and removing the mezzanine walkway on the north side of the building. The design of a proposed new exterior canopy was also discussed. SHPO staff indicated that concerns for proposed interior changes were largely limited to the proposed change in the location of the interior escalators.

Section 106 requires that agencies "develop and evaluate alternatives or modifications to the undertaking that could avoid, minimize, or mitigate adverse effects on historic properties" (36 CFR 800.6). Therefore, an Alternatives Analysis was prepared to evaluate the potential for alternatives that would avoid or minimize the potential adverse effects to the NRHP-eligible Memphis International Airport Terminal while achieving the goals of the Proposed Project. A memo describing the Alternatives Analysis, included as **Appendix D**, concluded that none of the alternatives that achieve the Proposed Project's goals avoid adverse effects to the historic Terminal. The Preferred Alternative (Alternative E) was found to successfully achieve the Proposed Project's goals while retaining the historic terminal. While the Preferred Alternative would require alterations to the terminal that would constitute an adverse effect on the historic property under Section 106, the alternative incorporates measures to minimize the adverse effect and retain, to the extent practicable, the historic character of the building.

Measures to minimize adverse effects to the historic property have been incorporated into the design of the Preferred Alternative. For example, the design of the proposed alterations to the façade of the building allow for the continued visibility of the character-defining columns and other original design features from the exterior. Further, light wells, originally proposed as part of the design of Alternative E, were removed from the design based on input received from SHPO as part of the Section 106 consultation process to date.

In accordance with Section 106, the ACHP was notified of the Preferred Alternative's potential adverse effects on historic properties via an electronic submittal on August 12, 2022. The ACHP declined to participate in consultation on the project on August 22, 2022 (**Appendix C**).

Additional measures to minimize and mitigate adverse effects to the historic property will be developed in consultation with SHPO and the Shelby County Historian in a Memorandum of Agreement (MOA) for the project (**Appendix E**). Measures included in the MOA to further minimize adverse effects on the historic property will include a provision for SHPO to engage in ongoing design review of Proposed Project components at discrete stages of development. This process will ensure that preservation of the historic character of the building remains a key consideration as Project designs are refined. The MOA will also set forth measures to mitigate adverse effects to the historic resource including recordation of the historic building through Historic American Building Survey (HABS) documentation prior to the commencement of the Proposed Project and the development of a historic interpretive display to allow for public education regarding the history and design of the Terminal.

3.4 Cumulative Effects

The CEQ NEPA regulations (40 CFR 1508.1) define a cumulative effect as "...effects on the environment that result from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative effects can result from individually minor, but collectively significant, actions taking place over a period of time."

The project is part of and consistent with the airport master plan and is limited to airport property. The project activities would not result in significant environmental effects, and no substantial new projects are planned or currently underway for the terminal complex. Therefore, adverse cumulative effects are not anticipated.

3.5 Irreversible and Irretrievable Commitment of Resources

The Preferred Alternative would not increase the permanent worker population, put undue stress on local utilities or Airport assets, or adversely alter the natural, visual, social, or economic conditions of the surrounding area. Therefore, there would be no irreversible or irretrievable commitment of resources associated with the implementation of the Preferred Alternative.

3.6 Conclusion

There are no permanent, significant, adverse impacts on resources as a result of the Preferred Alternative other than the adverse effect determined by the SHPO to the historic features of the existing terminal, when compared to the No Action Alternative. Those effects are documented and mitigated as per the Memorandum of Agreement (**Appendix E**). Therefore, no additional mitigation is required as part of this project. While the Preferred Alternative would not result in significant adverse impacts to other resources, best management practices would be observed during construction to avoid or minimize effects in the project area and its vicinity.

4 PUBLIC INVOLVEMENT AND AGENCY COORDINATION

4.1 Agency Coordination

Agency coordination occurred for those resources present and that may be affected by project activities. The following agencies, including Consulting Parties for the Section 106 process, participated in the evaluation of this project.

- Tennessee Historical Commission
- Shelby County Government

Readily available data was accessed from the following resource agencies:

- U.S. Fish and Wildlife Service
- Tennessee Natural Heritage Program

4.2 Section 106 Consultation

Section 106 of the National Historic Preservation Act (36 CFR Part 800) requires Federal agencies to consider the effects of their undertakings on historic properties that are listed or meet the eligibility criteria for listing in the National Register of Historic Places. Section 106 includes a public participation component. The process includes providing Consulting Parties and the public with information about the project and its effects on historic properties and seeking public comment and input. This requirement is being satisfied in coordination with the public involvement requirements pursuant to NEPA.

Members of the public with a demonstrated interest in the project (due to the nature of their legal or economic relation to the undertaking or affected properties, or their concern with the undertaking's effects on historic properties) may participate as Consulting Parties. Potential consulting parties for the project were identified in consultation with SHPO. They included the Shelby County Historian; the Memphis Area Association of Governments; the Association of the Preservation of Tennessee Antiquities; the Memphis and Shelby County Historical Commission; the West Tennessee Historical Society; Memphis Heritage, Inc.; and the Memphis Landmarks Commission. The Shelby County Historian accepted the invitation to be a Consulting Party, while no other potential consulting parties responded to the invitation.

A meeting was held on July 29, 2022 to seek and consider views of the consulting parties regarding the project's effects on historic and cultural resources. More meetings will be organized and held, as necessary.

4.3 Public Outreach

The FAA and MSCAA published a Notice of Availability of the EA providing the public an opportunity to review and comment on the project's environmental assessment. Notice was published in The Commercial Appeal, Tri-State, La-Prensa, and Daily News and on the Airport's website www.flymemphis.com.

The EA will be available for public review and the dates of the review period will be added to the final version of the document. Following the public comment period on the EA, FAA and MSCAA will consider

public comments and provide responses to them as part of its statement of findings for the Project. MSCAA will accept comments until the official comment period closes. Comments on this EA should be sent to:

Mr. James Hay, Director of Development
2491 Winchester Road, Suite 113
Memphis, TN 38116
Email: jhay@flymemphis.com

Any questions regarding this public notice can also be directed to Ms. Lori Morris at the address above or lmorris@flymemphis.com.

5 DRAFT SECTION 4(f) EVALUATION

Section 4(f) of the U.S. Department of Transportation Act of 1966 (now 49 United States Code [USC] Section 303 and 23 USC Section 138; U.S. Department of Transportation [USDOT] Act) applies to the use of publicly or privately owned historic sites determined eligible for or listed on the National Register of Historic Places (NRHP); and publicly owned parks, recreation areas, and wildlife and waterfowl refuges (collectively, Section 4(f) properties). The requirements of Section 4(f) apply to FAA and other agencies of USDOT.

5.1 Regulatory Framework

Section 4(f) of the USDOT Act stipulates that FAA and other USDOT operating administrations may not approve the use of Section 4(f) properties unless they have determined that the following conditions apply:

- There is no feasible and prudent alternative that would avoid the use of the Section 4(f) property; and
- The Project includes all possible planning to minimize harm to that property resulting from such use (23 Code of Federal Regulations [CFR] Section 774.3(a)); or
- The use of the Section 4(f) property, including any measures(s) to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures) will have a de minimis impact, as defined in 23 CFR Section 774.17, on the property.

The regulations 23 CFR 774.17 set out factors to consider in determining whether an avoidance alternative is feasible and prudent:⁶

(1) A feasible and prudent avoidance alternative avoids using Section 4(f) property and does not cause other severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) property. In assessing the importance of protecting the Section 4(f) property, it is appropriate to consider the relative value of the resource to the preservation purpose of the statute.

(2) An alternative is not feasible if it cannot be built as a matter of sound engineering judgment.

(3) An alternative is not prudent if:

(i) It compromises the project to a degree that it is unreasonable to proceed with the project in light of its stated purpose and need;

(ii) It results in unacceptable safety or operational problems;

(iii) After reasonable mitigation, it still causes:

(A) Severe social, economic, or environmental impacts;

(B) Severe disruption to established communities;

⁶ 23 CFR 774.17 "Feasible and prudent avoidance alternative"

- (C) Severe disproportionate impacts to minority or low income populations; or
- (D) Severe impacts to environmental resources protected under other Federal statutes;
- (iv) It results in additional construction, maintenance, or operational costs of an extraordinary magnitude;
- (v) It causes other unique problems or unusual factors; or
- (vi) It involves multiple factors in paragraphs (3)(i) through (3)(v) of this definition, that while individually minor, cumulatively cause unique problems or impacts of extraordinary magnitude.

The Section 4(f) regulations define three types of “use” of Section 4(f) properties (23 CFR Part 774.17):

1. When land is permanently incorporated into a transportation facility. The permanent incorporation of land into a transportation facility occurs when land (either in whole or in part) from a Section 4(f) property is purchased outright for a transportation facility, or when a project acquires the property interest—either a full or partial acquisition—that allows permanent access onto a property such as a permanent easement for maintenance.
2. When there is a temporary occupancy of land that is adverse to the preservation purpose of Section 4(f) as determined by the criteria in 23 CFR 774.13(d). Temporary occupancy results when Section 4(f) property, in whole or in part, is required for project construction-related activities. The property is not permanently incorporated into a transportation facility, but the activity is considered to be adverse in terms of the preservation purpose of Section 4(f). Under the provisions of 23 CFR 774.13(d), a temporary occupancy does not constitute a Section 4(f) use if the following conditions are met:
 - (1) the duration is less than the time needed for the project’s construction and there is no change in ownership of land;
 - (2) the scope of work is minor, in that both the nature and magnitude of changes to the 4(f) property are minimal;
 - (3) no permanent, adverse physical impacts are anticipated, and there will be no temporary or permanent interference with the protected activities, features, or attributes of the property;
 - (4) the land is fully restored, and returned to a condition at least as good as that which existed prior to the project; and
 - (5) the agreement of the official(s) with jurisdiction over the Section 4(f) property regarding the above conditions is documented. If one or more of these conditions is not met, there is a use of the Section 4(f) property, even though the duration of construction related activities is temporary.
3. A constructive use of a Section 4(f) property occurs “when the transportation project does not incorporate land from a Section 4(f) resource, but the proximity impacts are so severe that the protected activities, features, or attributes that qualify a resource for protection under Section 4(f) are substantially impaired” (23 CFR Part 774.15(a)). A constructive use involves no physical use of the Section 4(f) property via permanent incorporation of land or a temporary occupancy of land into a transportation facility.

The following sections identify the project’s alternatives and their potential to use Section 4(f) properties in accordance with Section 4(f) regulations.

5.2 Description of the Project

The full description of the project (Preferred Alternative) is in **Chapter 1**. The only Section 4(f) resource present within the project area is the MEM historic terminal building. A description of the building is included in **Section 3.3.4**. The following provides a list detailing the components of the Preferred Alternative. These components work together to accomplish the goals of the project and include:

- Terminal Space Expansion and Reconfiguration
 - Relocation of the façade
 - Relocation and expansion of the escalator and elevator cores
 - Removal of mezzanine connector at north face of building
 - Central Baggage Inspection System
 - Expansion of the security checkpoint
 - Ticketing reconfiguration
 - Baggage claim reconfiguration
- Code and Safety Updates:
 - Seismic Upgrades
 - Fire Protection Device Installation
 - Access Improvements for ADA

5.3 Project Purpose and Need

The purpose of the project is to provide passengers, airlines, TSA, and employees with a terminal space that would accommodate current and future passenger demand, meets building safety, seismic, TSA, and FAA standards, as well as enhance passenger flow in the space while preserving the historic character of the original terminal building.

The project is imperative to the efficient and safe use of MEM's existing terminal buildings. The need for terminal modernization also includes providing flexibility to react to evolving passenger processing flows, modernization of baggage inspection, more efficient and expanded security screening, more efficient vertical circulation, and remote passenger processing.

5.4 Alternatives Considered Further in EA

A range of concepts were considered for the project and represent variations on how an alternative could provide the adequate space, provide ease of access and enhance passenger compliance, comply with construction requirements and standards, as well as be affordable while preserving the character of the existing terminal's historic features. The full description of alternatives is included in **Chapter 2**.

MSCAA initially considered six alternatives that would potentially fulfill the project's purpose and need. Other than the No Action Alternatives, the alternatives would either modify or remove/demolish the historic terminal building and would therefore not avoid the Section 4(f) property. As such, the alternatives initially considered were also evaluated for whether an alternative was feasible and prudent.

- No Action: The No Action Alternative would not be prudent, as the terminal's safety and operational problems would not be rectified, and the building would remain in non-compliance for safety, fire, and seismic building requirements. The alternative would not accomplish the purpose and need for the project.
- Alternative A: Alternative A would not be prudent as it does not avoid effects to historic property and would not accomplish the purpose and need for the project. While some modifications could be made relative to the terminal's configuration, not all of the improvements could be made in the existing space and the ease of access, passenger flow, and passenger experience would not improve.
- Alternative B: Alternative B would not be prudent as it would involve the demolition of the historic resource and would therefore constitute a severe impact.
- Alternative C: A Alternative B would not be prudent as it would involve the demolition of the historic resource and would therefore constitute a severe impact.
- Alternative D: Alternative D would not be feasible and prudent as it would not avoid effects to the historic resource and would result in additional, extraordinary construction, maintenance, and operational costs. The construction of a new building, a connection to the existing terminal building, and acquiring space and constructing (as well as operating) replacement parking at a different location on-airport would be cost prohibitive.

Therefore, two alternatives were further considered in this analysis, the No Action Alternative and Alternative E (Preferred Alternative). FAA advanced the Alternative E (Preferred Alternative) as the only feasible and prudent alternative and the No Action Alternative.

5.4.1.1 No Action Alternative

In the No Action Alternative, improvements to the terminal or any construction associated with the terminal complex would not be implemented. The current building would remain in its current condition and continued to be used for passenger access, ticketing, security, and baggage claim as currently configured.

5.4.1.2 Alternative E - Renovation, with Façade Expansion, in Current Footprint – Preferred Alternative

Alternative E includes the renovation of the existing building with an expansion of the building to the north. The existing building would be largely preserved and modernized while maintaining the existing access to the recently renovated concourse. The existing façade on the north side of the building would move farther north by approximately 24 feet to expand the building's interior footprint, which would allow for an additional 60,000 square feet of usable interior space. Alternative E would still maintain the existing structure of the building while preserving the architecturally important features.

5.5 Section 4(f) Properties

5.5.1 Historic Sites

The requirements of Section 4(f) apply to historic sites listed or eligible for listing in the National Register of Historic Places (23 CFR 774.11(e)(1)). Section 4(f) historic sites were identified through the Section 106 process pursuant to 36 CFR Part 800, in consultation with the Tennessee Historic Preservation Office (SHPO), the Advisory Council on Historic Preservation (ACHP), and other Consulting Parties. The SHPO and ACHP are the officials with jurisdiction for the Section 4(f) historic sites.

There is only one (1) historic resource located within the Areas of Potential Effects (APE) of the Project, which is the historical terminal building:

The **Memphis International Airport Terminal** is considered a historic resource. The Memphis International Airport passenger terminal is composed of three buildings, Terminals A, B, and C, two mezzanine structures between the terminals and one “Y” shaped concourse. **Figure 3** depicts the terminal area. Terminal B is the original terminal structure, completed in 1963, and was designed by architect Roy Harrover (1928-2016) (then part of the firm Mann & Harrover). The terminal was expanded in 1972, adding Terminals A & C additions, which combined with Terminal B, are the entirety of the terminal. The original terminal building (Terminal B) was determined eligible for the National Register of Historic Places by the Tennessee State Historic Preservation Office (SHPO) in 2019.

5.5.2 Publicly Owned Parks, Recreation Areas, and Wildlife and Waterfowl Refuges

Section 4(f) applies to parks and recreation areas of national, state, or local significance that are both publicly owned and open to the public; publicly owned wildlife and waterfowl refuges of national, state, or local significance that are open to the public. In addition, Section 4(f) applies to those portions of Federally designated Wild and Scenic Rivers that are publicly owned and function as, or are designated in a management plan as, a significant park, recreation area, or wildlife and waterfowl refuge (23 CFR § 774.11(g)). None of these resources are present within the project area.

5.6 Use of Section 4(f) Properties

Alternative E would result in a permanent use of the terminal building which was determined to be eligible for or listed on the National Register of Historic Places. The existing façade on the north side of the building would move farther north by approximately 24 feet, which would allow for an additional 60,000 square feet of usable interior space. Alternative E would still maintain the majority of the existing structure of the building while preserving the architecturally important features. Instead of blocking the view of the martini glasses with a new building, this design would include adding more glass along the north side to allow for the continued viewing of the columns and other features from the outside. The expansion would remain within the existing terminal’s roofline footprint, minimizing impacts to the historical look and characteristics of this side of the building. This would allow for enough space to reconfigure key elements of the building without the demolition of the current building or relocating and constructing a completely new structure.

5.7 Avoidance Alternatives

The FAA may not approve the use of a Section 4(f) property if there is a “feasible and prudent” avoidance alternative. Therefore, if any feasible and prudent avoidance alternative exists, that alternative must be selected. As defined in the regulations (23 CFR § 774.17), an alternative that would not require the use of any Section 4(f) property is an avoidance alternative. Feasible and prudent avoidance alternatives are those that do not cause other severe problems that substantially outweigh the importance of protecting the Section 4(f) property.

Of the two remaining alternatives under consideration, the No Action Alternative is the only alternative that would avoid the property; however, the No Action Alternative would not address the needs of the project and therefore not feasible and prudent. The current passenger terminal complex cannot accommodate current peak or future passenger demand of the Airport, or the operational requirements of the airlines, TSA, and other tenants. Therefore, passenger flow conditions in the ticketing and security areas during peak times as well as the overall customer experience would continue to degrade as the

number of passengers increase based on the airport's forecasted growth. This alternative would not fulfill the project's purpose and need.

Only Alternative E would meet design standards required to meet the Project's purpose and need, relevant design standards, and maintain the majority of the historical terminal structure and its original components. Alternative E is the only prudent and feasible alternative.

5.8 Measures to Minimize Harm

Measures to minimize adverse effects to the historic property have been incorporated into the design of the Preferred Alternative. For example, the design of the proposed alterations to the façade of the building allows for the continued visibility of the character-defining columns and other original design features from the exterior. Further, light wells, originally proposed as part of the design of Alternative E, were removed from the design based on input received from SHPO as part of the Section 106 consultation process to date.

Additional measures to minimize and mitigate adverse effects to the historic property will be developed in consultation with SHPO and the Shelby County Historian in a Memorandum of Agreement (MOA) for the project. Measures included in the MOA to further minimize adverse effects on the historic property will include a provision for SHPO to engage in ongoing design review of the project's components at discrete stages of development. This process will ensure that preservation of the historic character of the building remains a key consideration as project designs are refined. The MOA will also set forth measures to mitigate adverse effects to the historic resource including recordation of the historic building through Historic American Building Survey (HABS) documentation prior to the commencement of the Proposed Project and the development of a historic interpretive display to allow for public education regarding the history and design of the terminal.

5.9 Coordination

Coordination with Officials with Jurisdiction

As required by the Section 4(f) regulations (23 CFR § 774.5), the Draft Section 4(f) Evaluation for the project was provided for coordination and comment to the officials with jurisdiction over the Section 4(f) resources that would be used by the project. For historic sites, the officials with jurisdiction are SHPO and ACHP. SHPO provided concurrence with the Section 106 effects findings for the project as shown through correspondence provided in **Appendix C**. The FAA has determined there is no prudent alternative that avoids the use of the historic site. To minimize harm to the historic property, a Memorandum of Agreement is being drafted to mitigate adverse effects on the historic property (**Appendix E**).

Public Involvement

The draft Section 4(f) evaluation is being made available for public review and comment during the public review period as part of the EA. During the public comment period, the EA, with the draft Section 4(f) evaluation included, is available for review on the MSCAA website (www.flymemphis.com). FAA will consider any public comments on this draft Section 4(f) evaluation as part of its statement of findings.

Conclusion

Only Alternative E would meet design standards required to meet the Project's purpose and need and maintain the majority of the historical terminal structure and its original components. All other alternatives were determined either not prudent and feasible. Alternative E is the only prudent and feasible alternative.

6 LIST OF PREPARERS

The consultants contracted to prepare this Environmental Assessment included the following:

AKRF, Inc.

Jennifer Hogan (Project Manager)

Christopher Calvert (Technical Review)

Max Meltzer (Section 4(f) Resources)

Nathan Riddle (Historic Resources)

Molly MacDonald (Historic Resources)

Aubrey McMahon (Natural Resources)

Kevin Edwards (Air Quality)

Jacobsen Daniels

Matt Johnson (Alternatives)

Rebecca Didio (Alternatives)

7 REFERENCES

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

Federal Aviation Administration. Order 5050.4B, National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions. April 2006.

Federal Aviation Administration. 1050.1F Desk Reference. Version 2, February 2020.

Federal Emergency Management Agency, Flood Insurance Rate Map, Shelby County, Tennessee, Panel #47157C0170F, September 28, 2007. Accessed April 8, 2022.

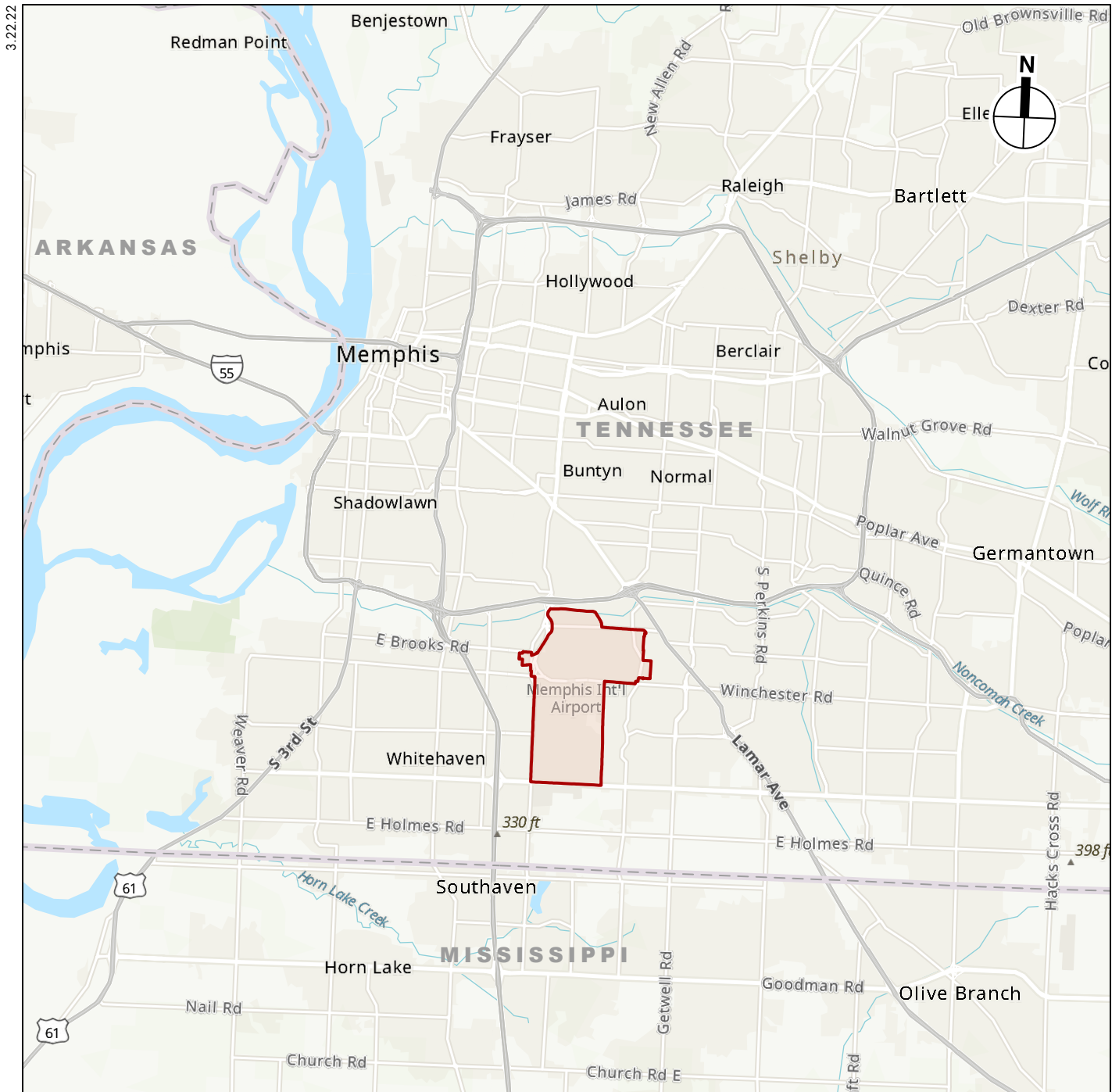
Tennessee Natural Heritage Program Database. Accessed June 22, 2022.

U.S. Fish and Wildlife Service. Official Species List. Species List provided by Tennessee Ecological Services Field Office. Accessed June 22, 2022.

APPENDICES

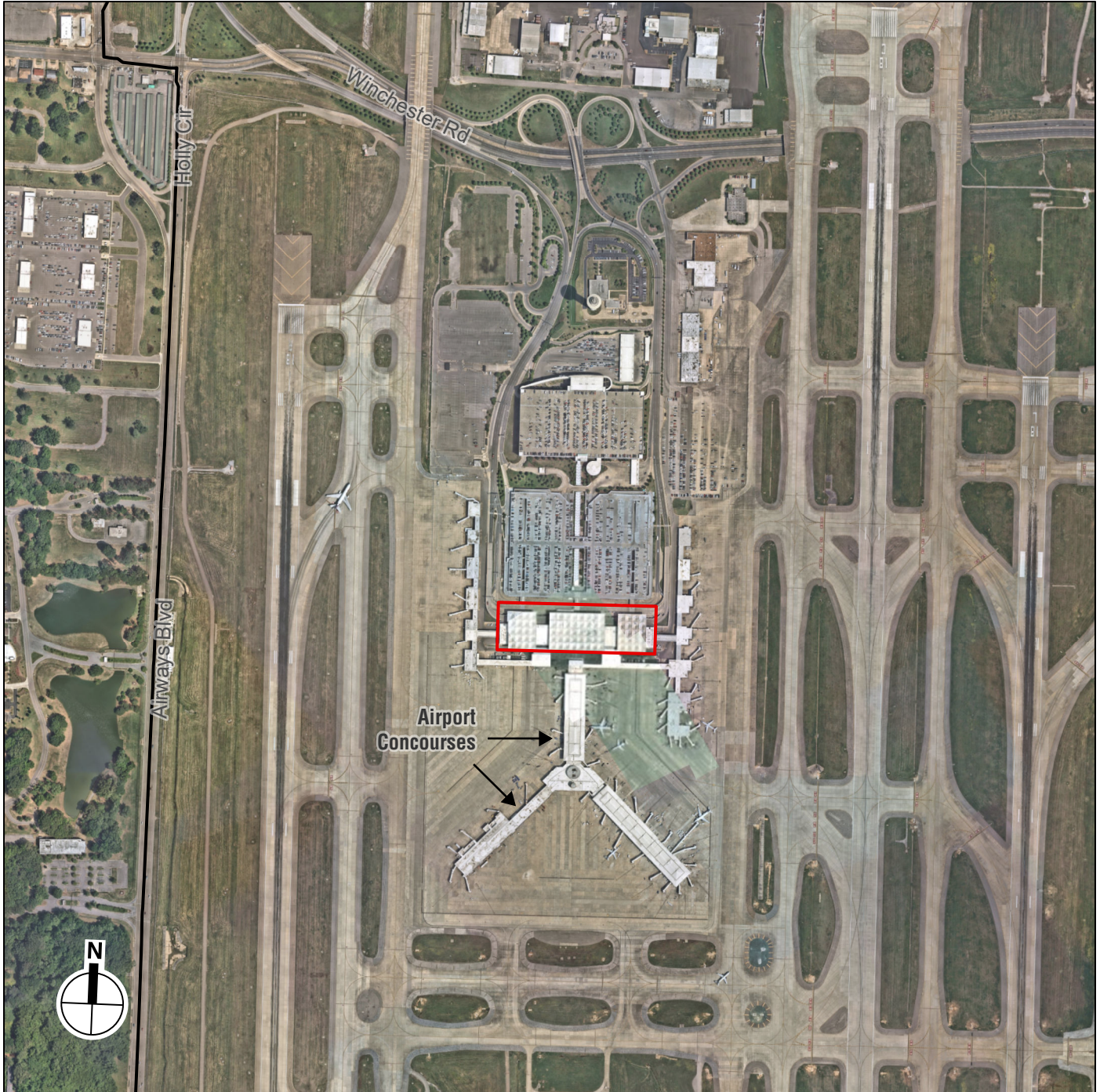
APPENDIX A

FIGURES



- Memphis International Airport*
- State Boundary*



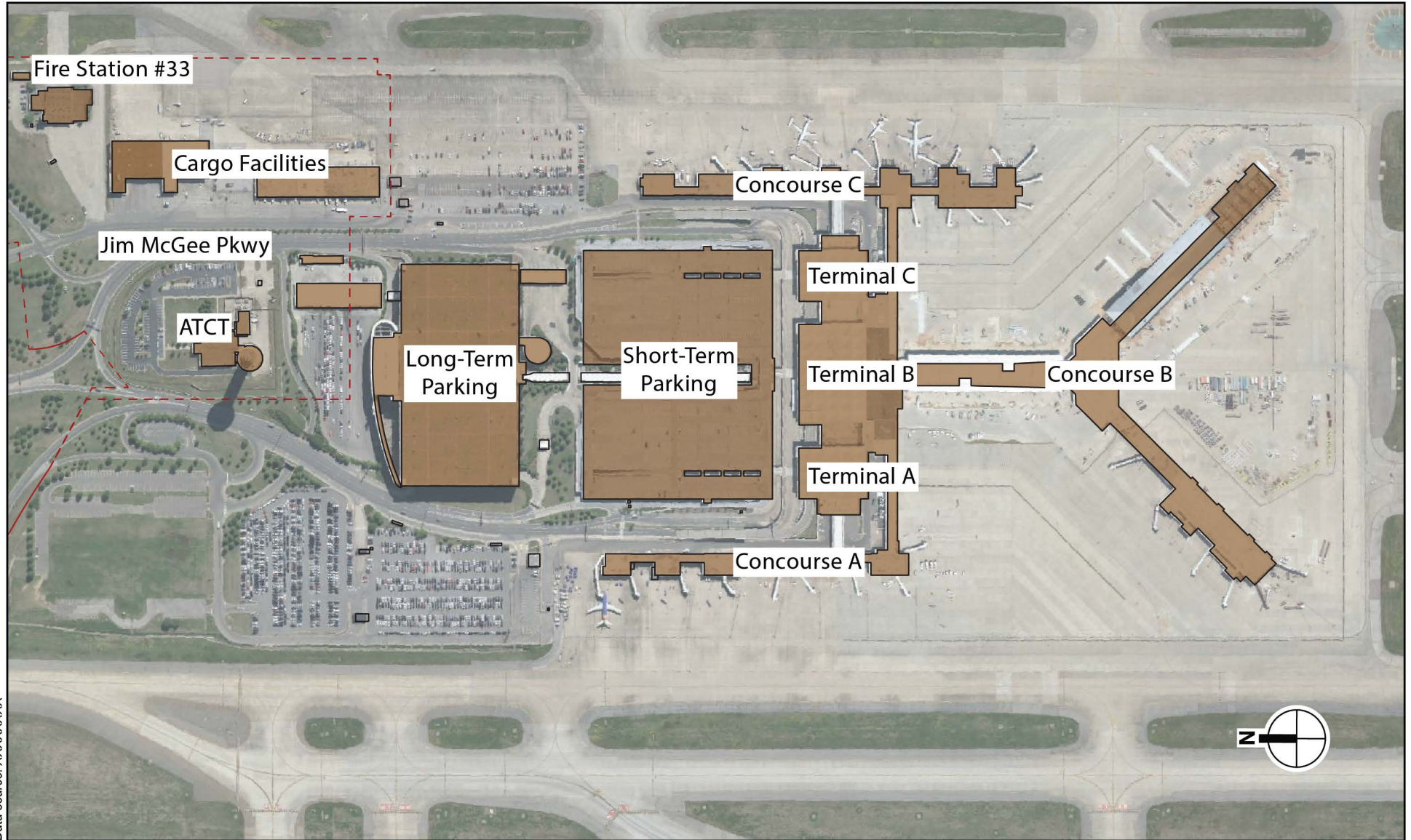


0 1,000 FEET

- Study Area
- Memphis International Airport




Study Area
 Figure 2

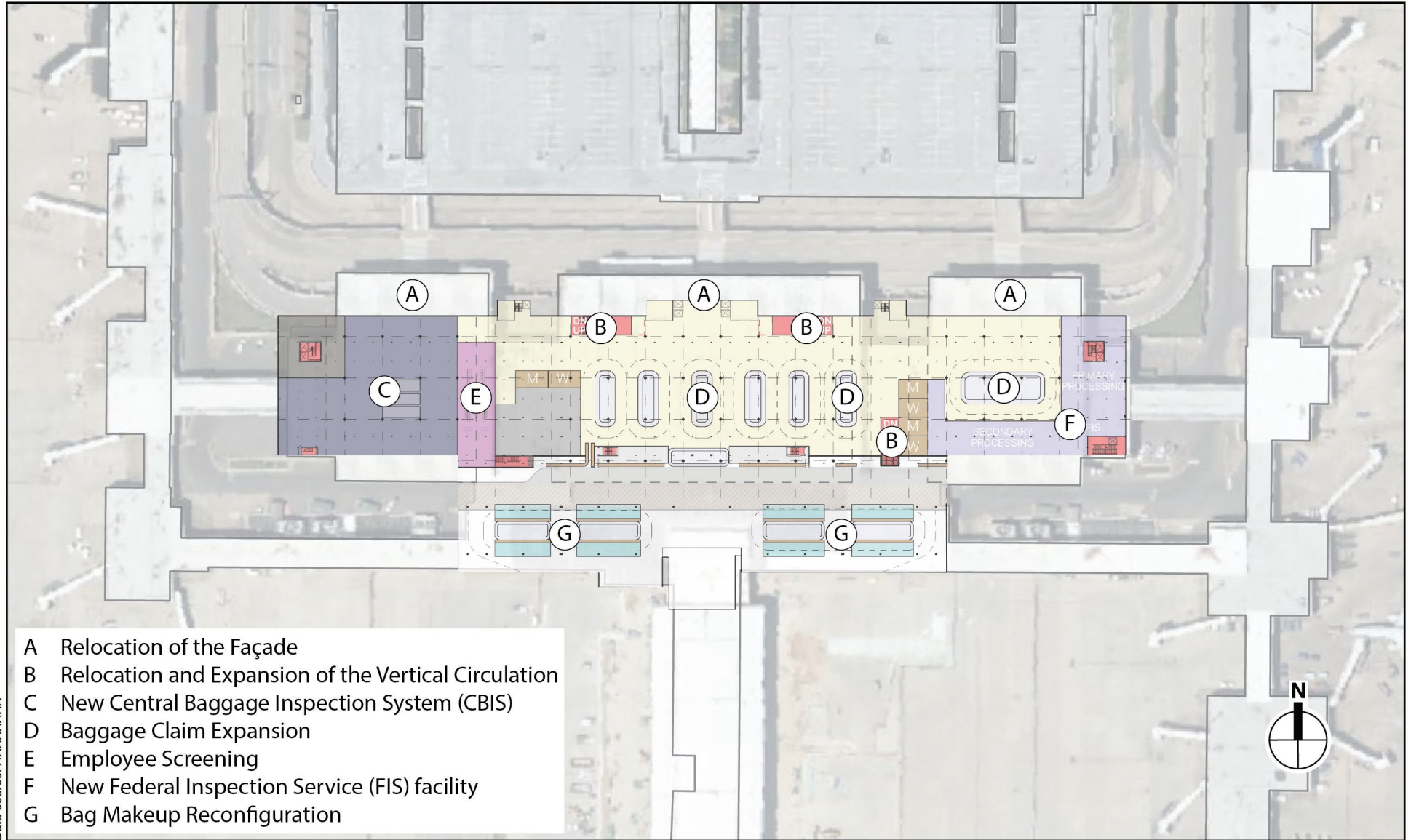


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-  Building
-  Airport Property Boundary









0 NTS


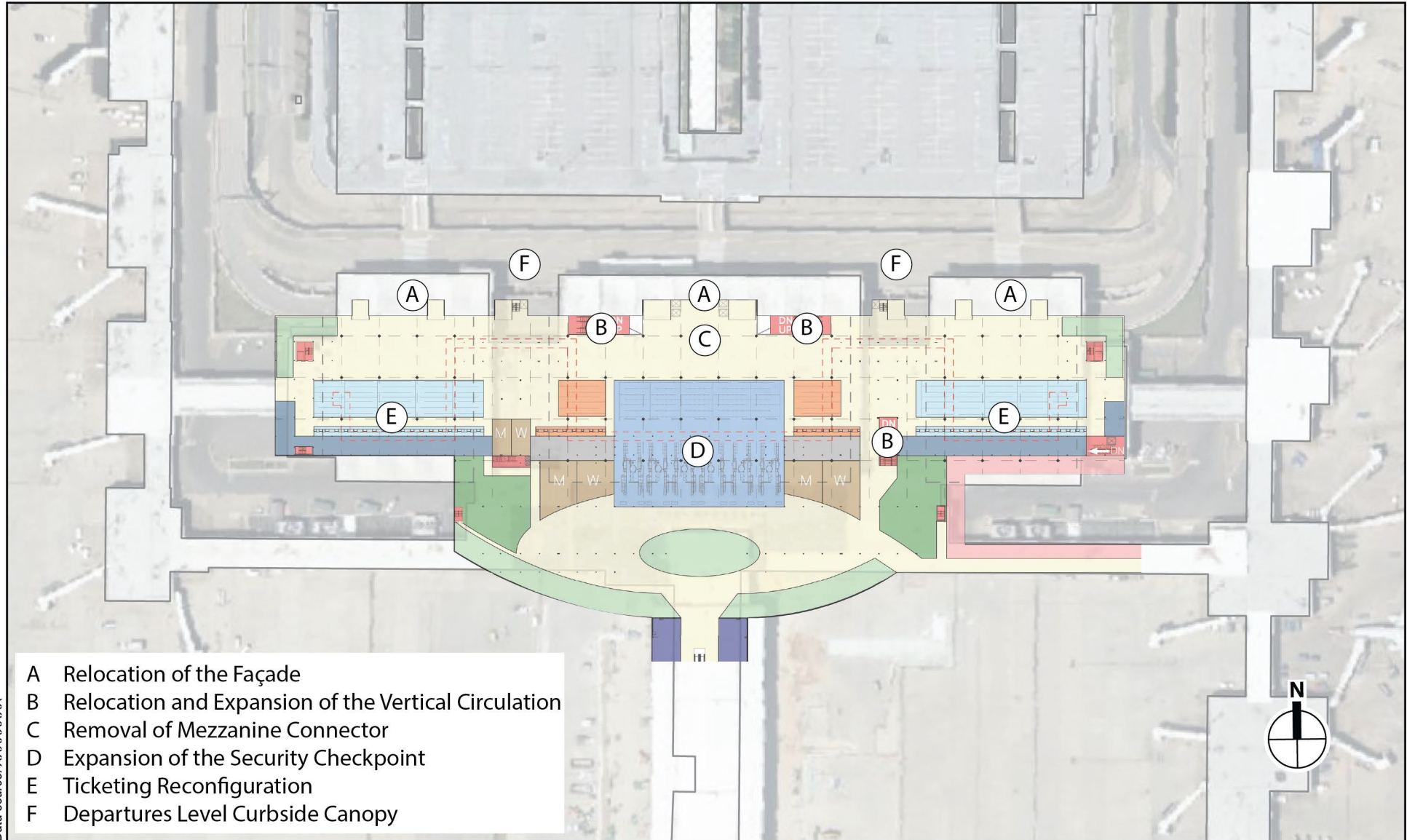


- A Relocation of the Façade
- B Relocation and Expansion of the Vertical Circulation
- C New Central Baggage Inspection System (CBIS)
- D Baggage Claim Expansion
- E Employee Screening
- F New Federal Inspection Service (FIS) facility
- G Bag Makeup Reconfiguration

Data source: XXXXXXXX



 Baggage Claim	 Baggage Screening	 Storage / Mechanical	 Cart Storage	
 FIS	 Baggage Makeup	 Employee Screening		

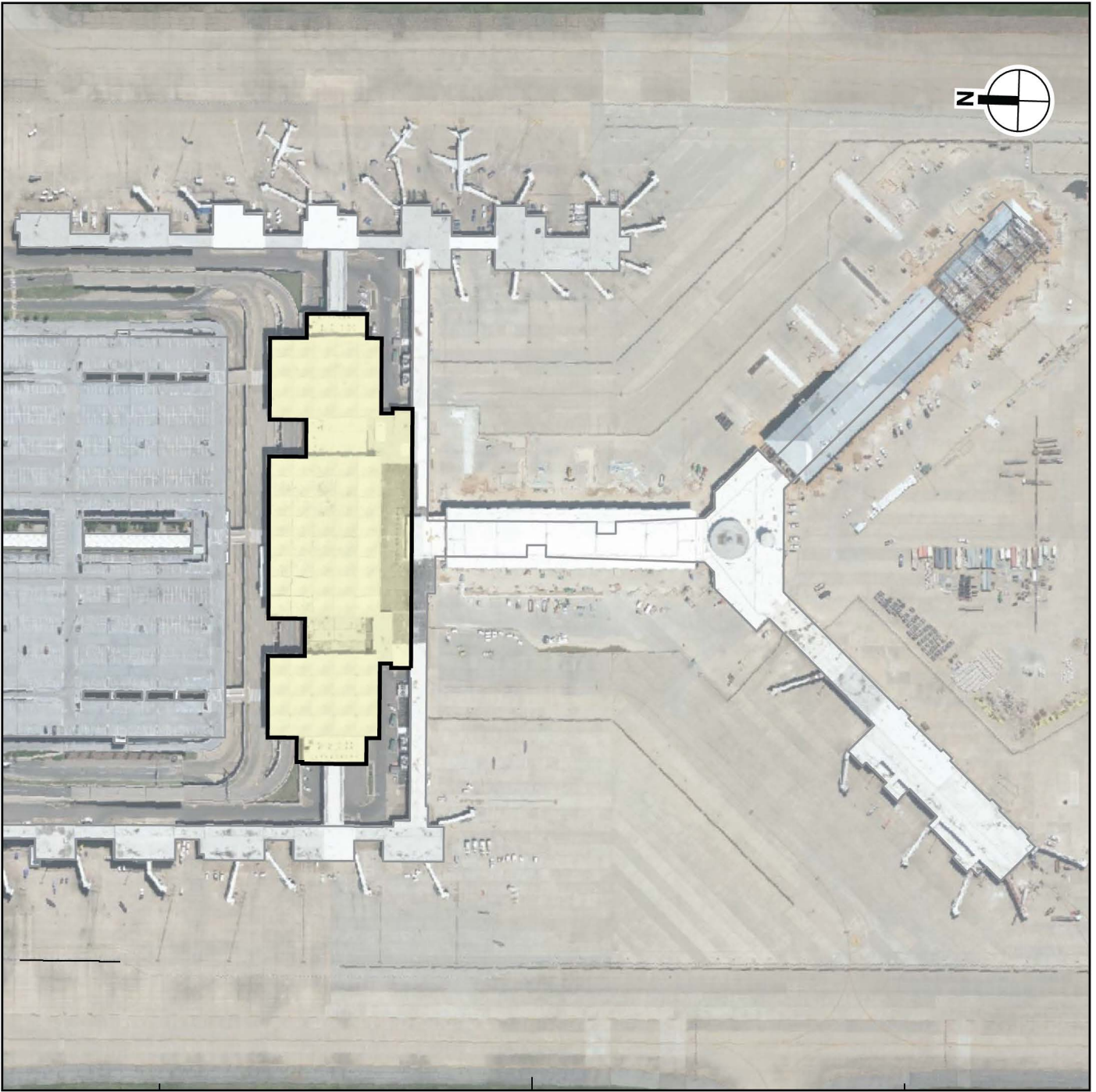


- A Relocation of the Façade
- B Relocation and Expansion of the Vertical Circulation
- C Removal of Mezzanine Connector
- D Expansion of the Security Checkpoint
- E Ticketing Reconfiguration
- F Departures Level Curbside Canopy

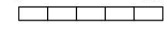
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 Kiosk Area / Bag Drop	 Security	 Concessions	 Mechanical	 0 NTS
 Ticketing	 Support	 Airline Club	 Int'l Hold Room	 Restroom

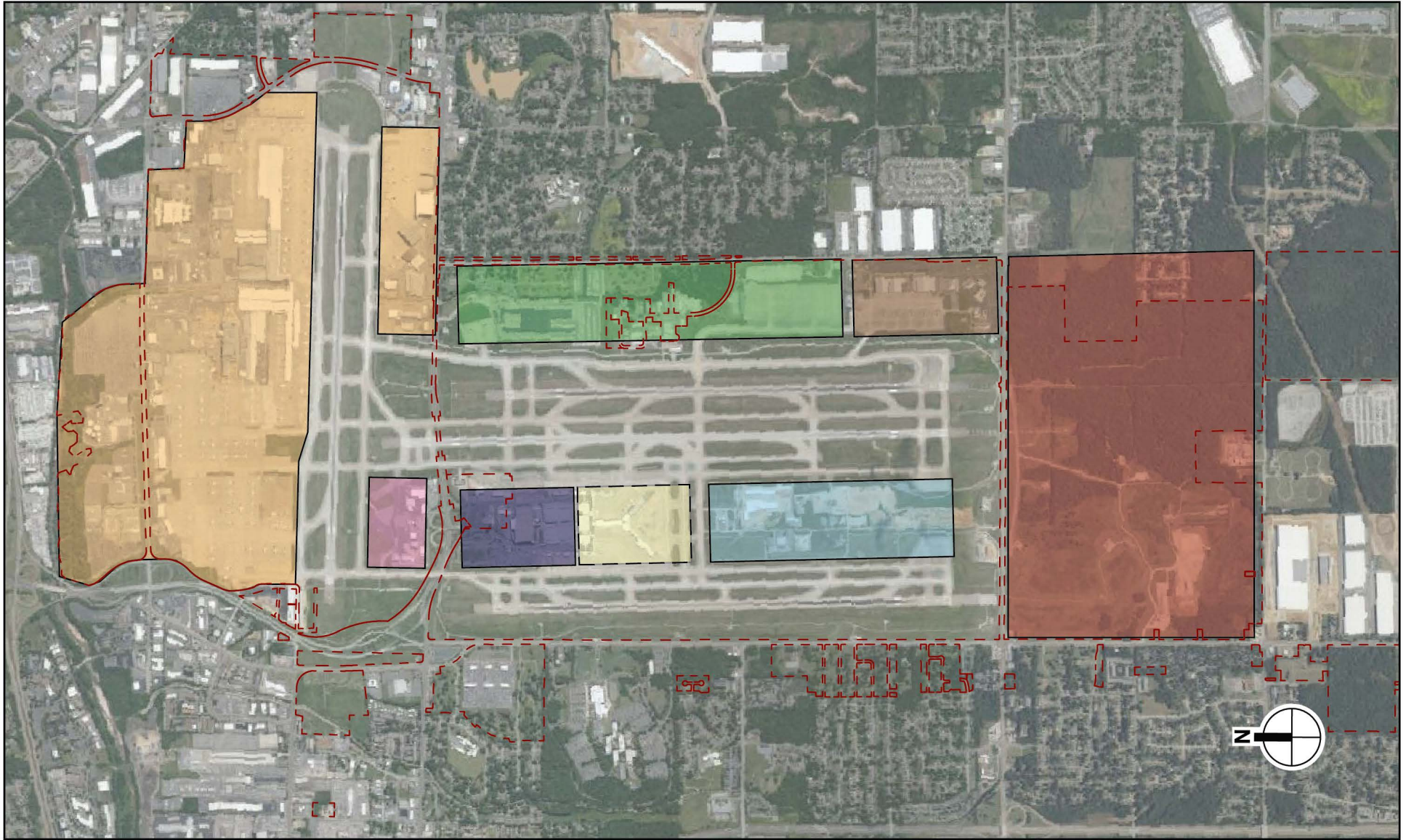
Preferred Terminal Plan - Upper Level
 Figure 5












 Project Area

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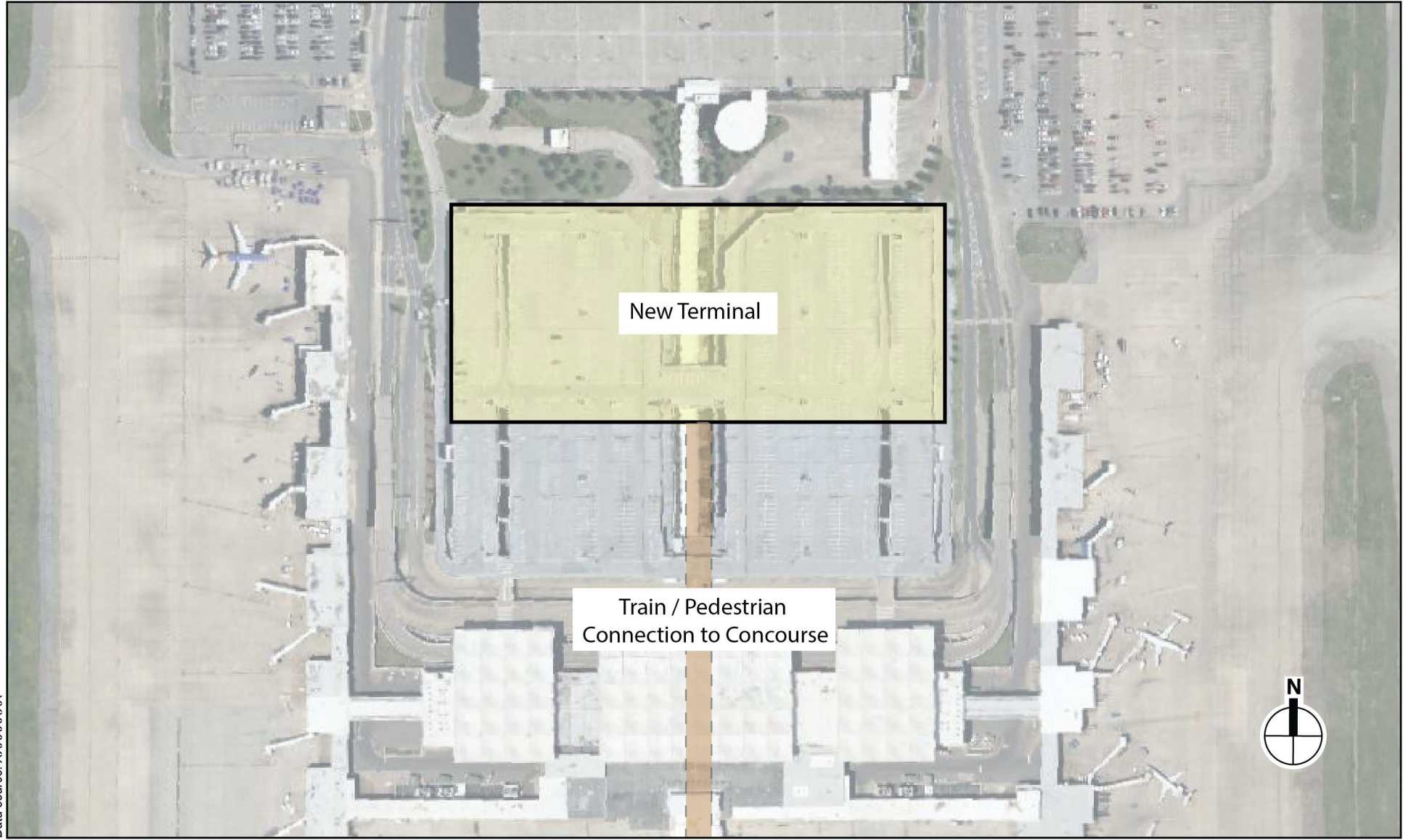
- | | | | |
|---|--|--|--|
|  FedEx |  Cargo & Support |  Existing Terminal / Concourse |  Approach Area |
|  Fixed-Based Operator |  Landside and ATC |  Air National Guard |  Central Deicing Facility, Cargo, and Maintenance |
|  Airport Property Boundary | | | |

**MEMPHIS INTERNATIONAL
AIRPORT TERMINAL
IMPROVEMENTS PROJECT**

Options for New Terminal in New Location

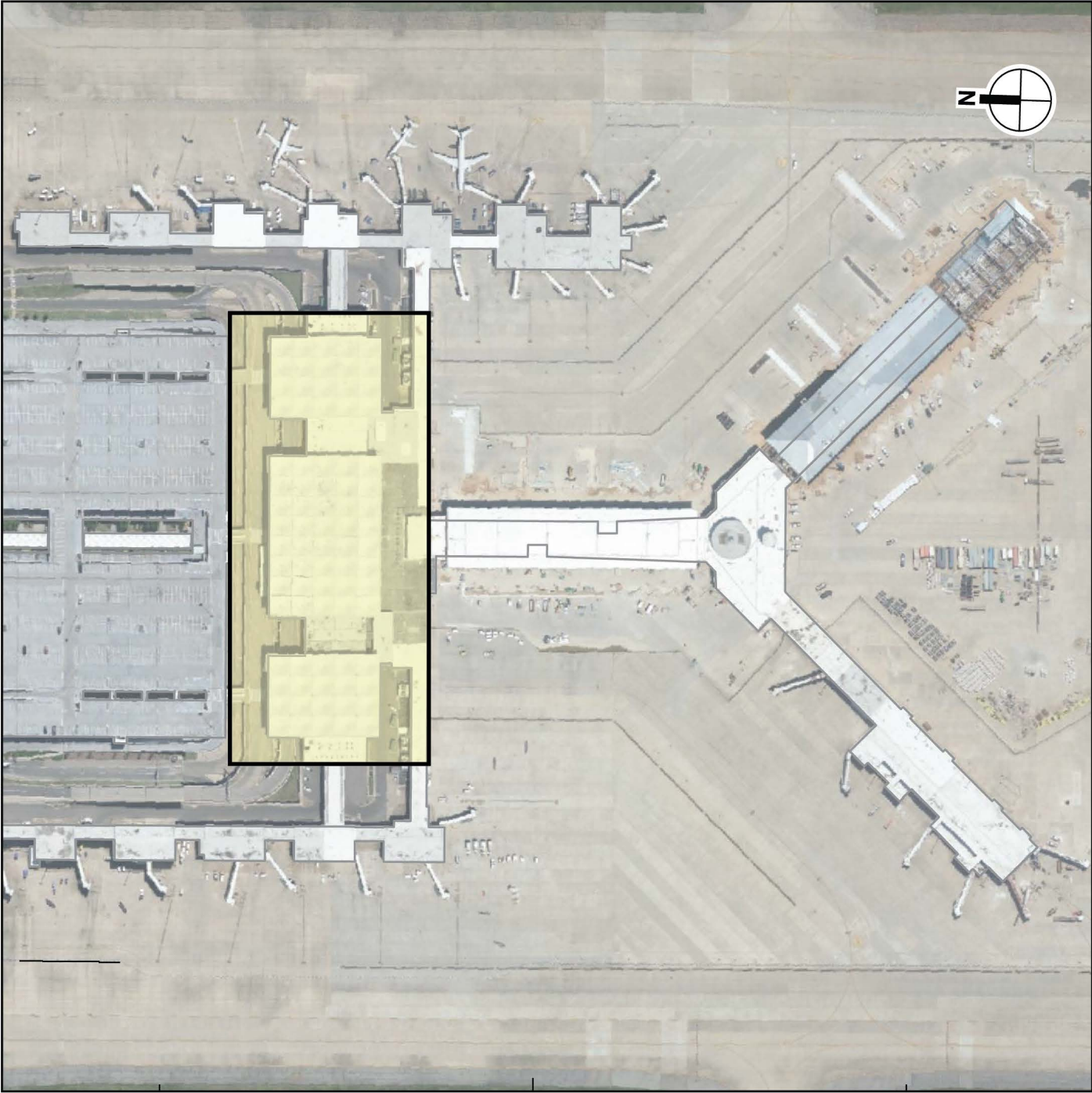
Figure 7

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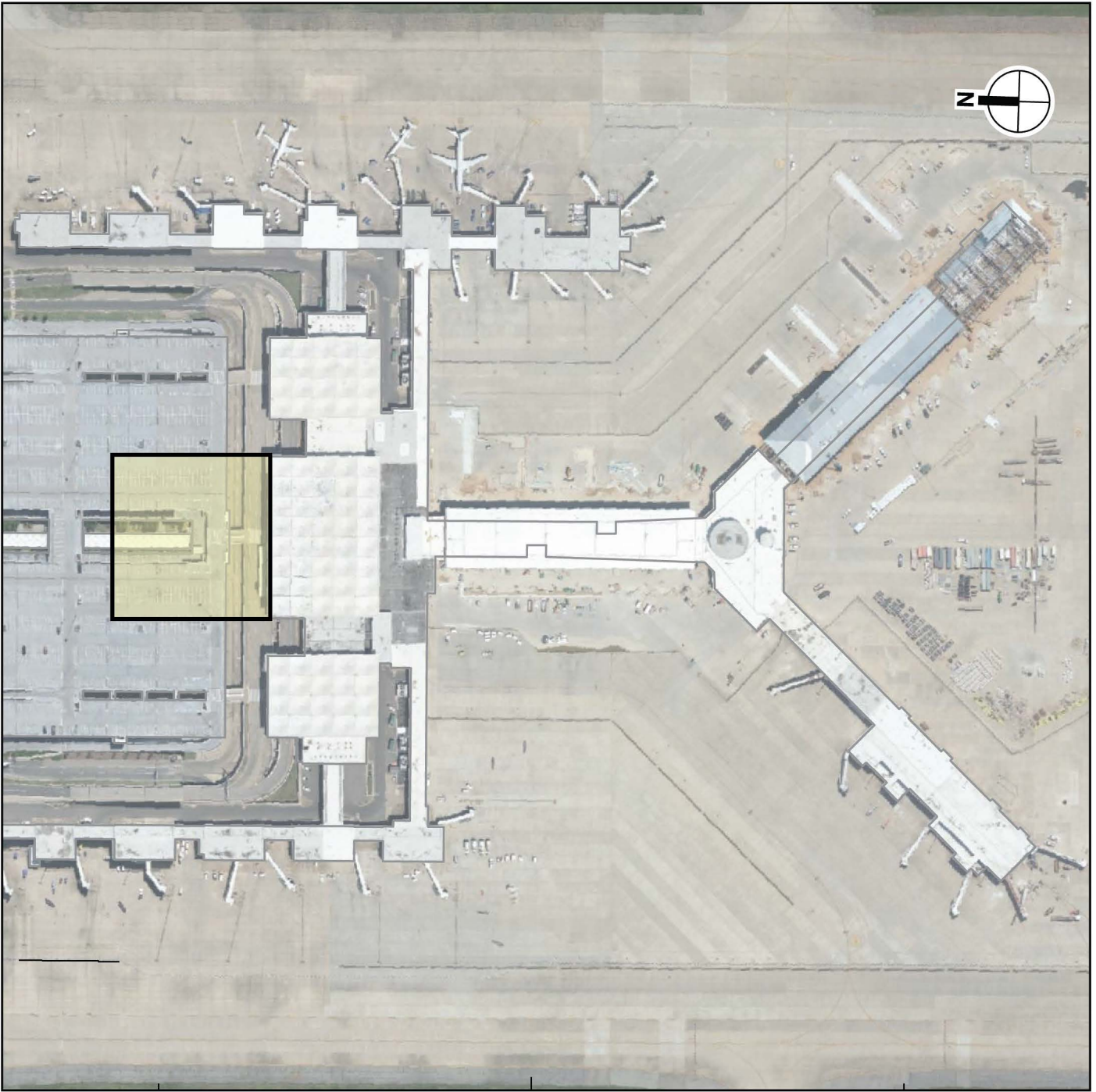
 Project Area

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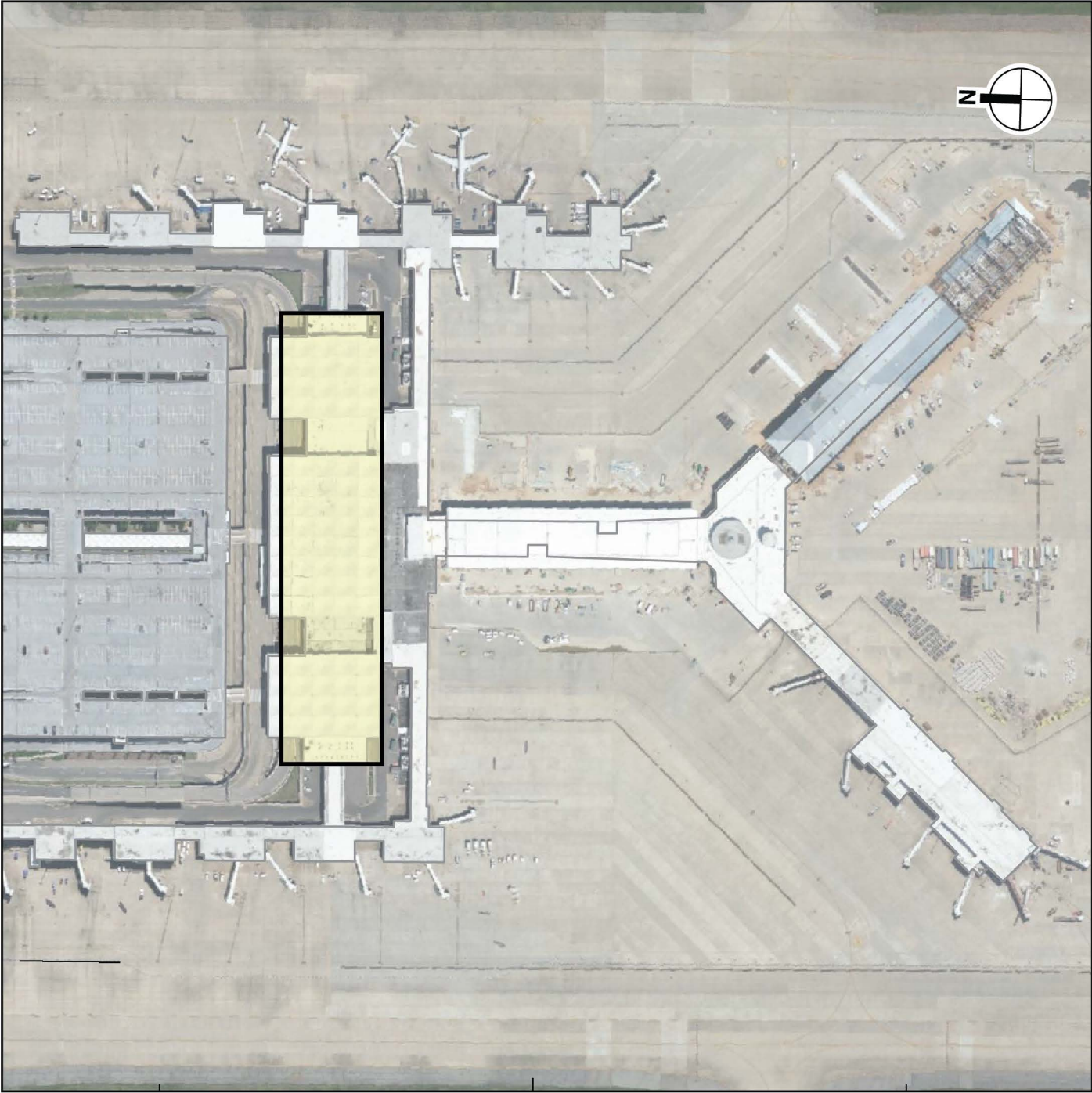
 Project Area

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 *Project Area*

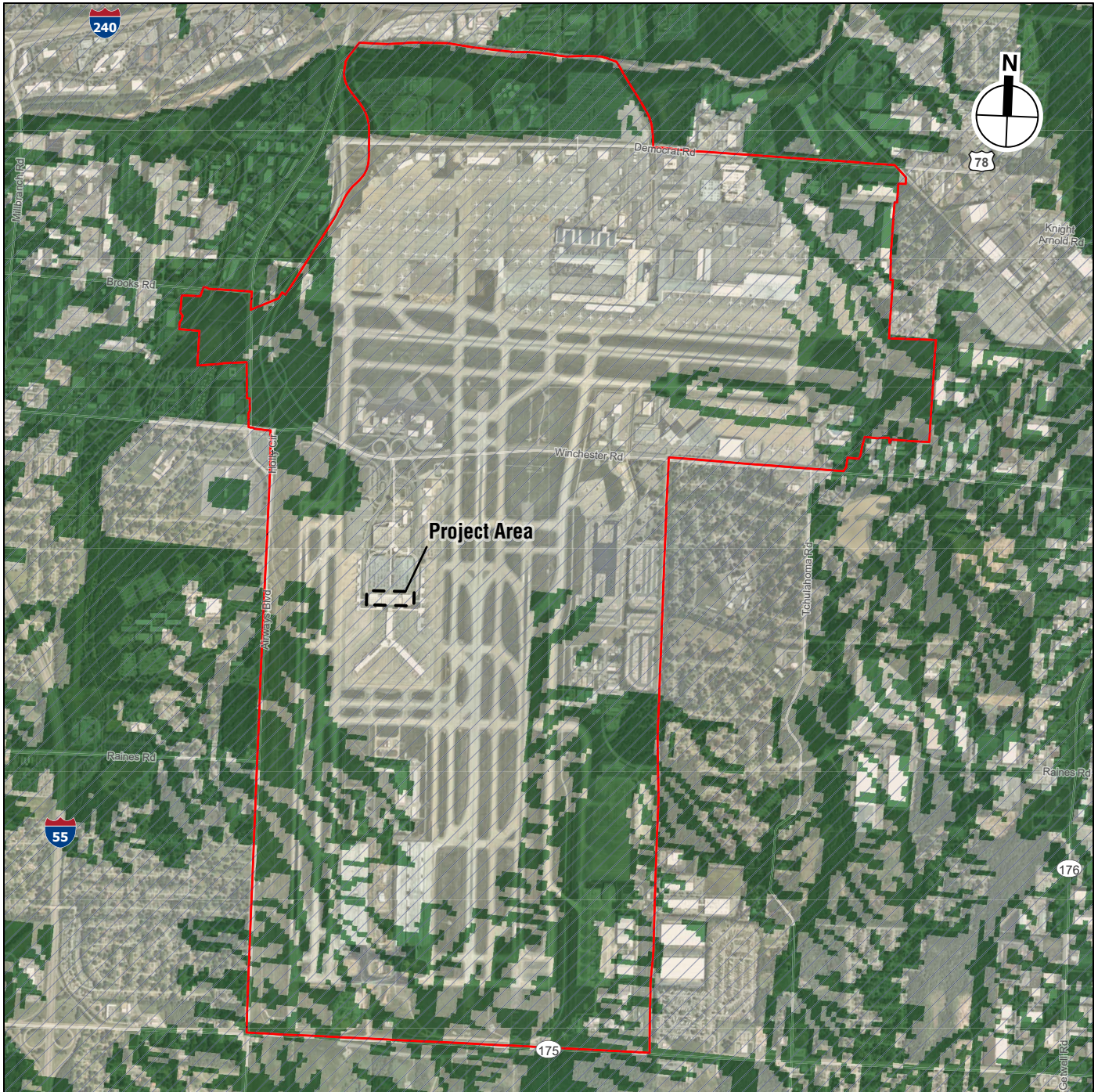
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 Project Area

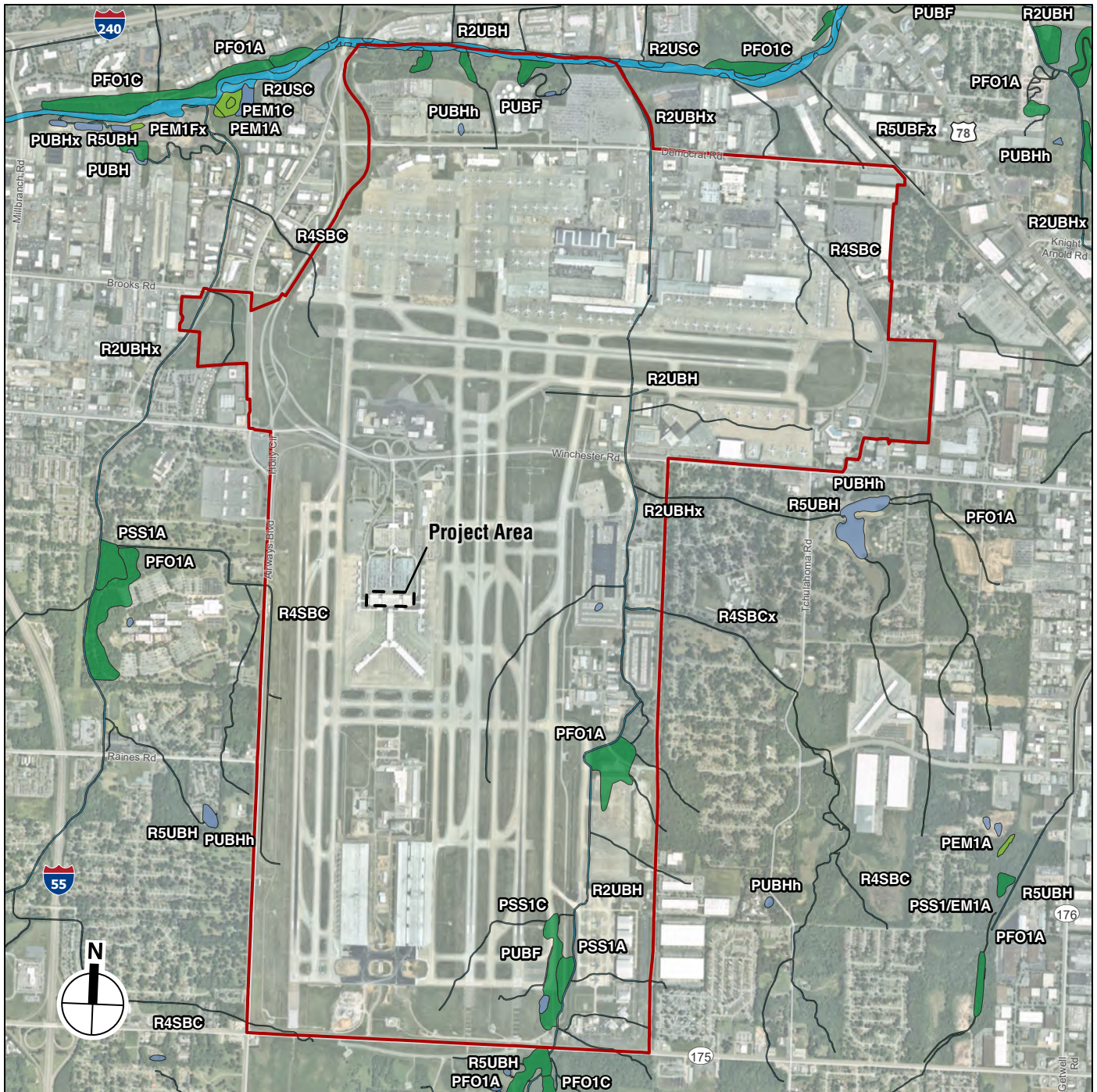
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Renovation, with Façade Expansion, in Current Footprint Alternative E

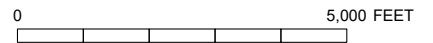


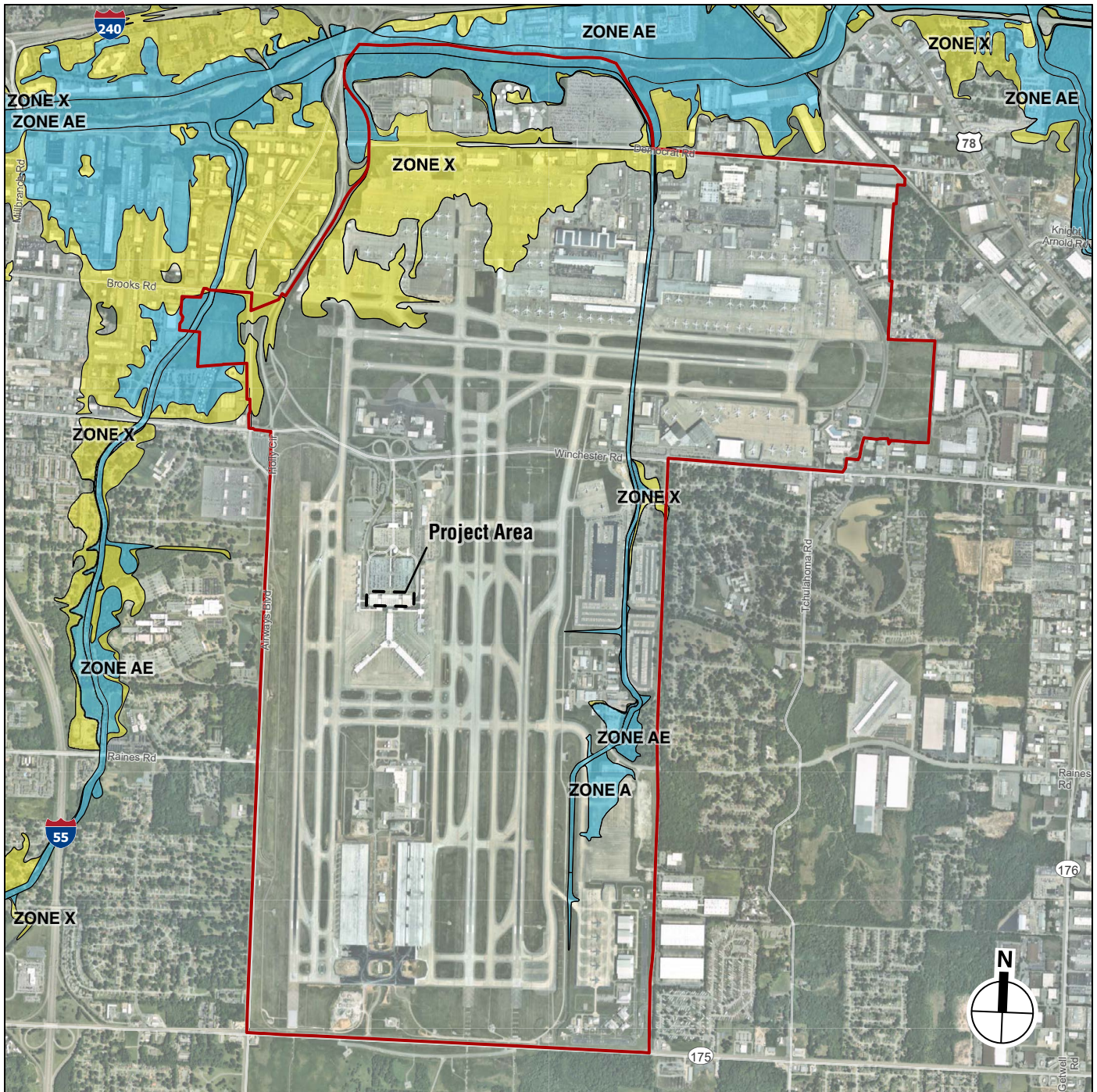
- Memphis International Airport*
- Urbanized Area*
- Prime Farmland*
- Not Prime Farmland*

0 5,000 FEET



- Memphis International Airport
- Freshwater Emergent Wetland (PEM)
- Freshwater Forested/Shrub Wetland (PFO, PSS)
- Freshwater Pond (PUB, PAB)
- Riverine (R)





- Memphis International Airport*
- 1% Annual Chance of Flooding*
- 0.2% Annual Chance of Flooding*

0 5,000 FEET

APPENDIX B

TERMINAL PICTURES AND RENDERINGS



Credit: The AirportHistory.org Collection

AirportHistory.org

Airport, 1963 aerial

Exhibit 1



Source: Jacobsen Daniels

Memphis Terminal ca 1970

Exhibit 2



Memphis Terminal, Existing Conditions **Exhibit 3**



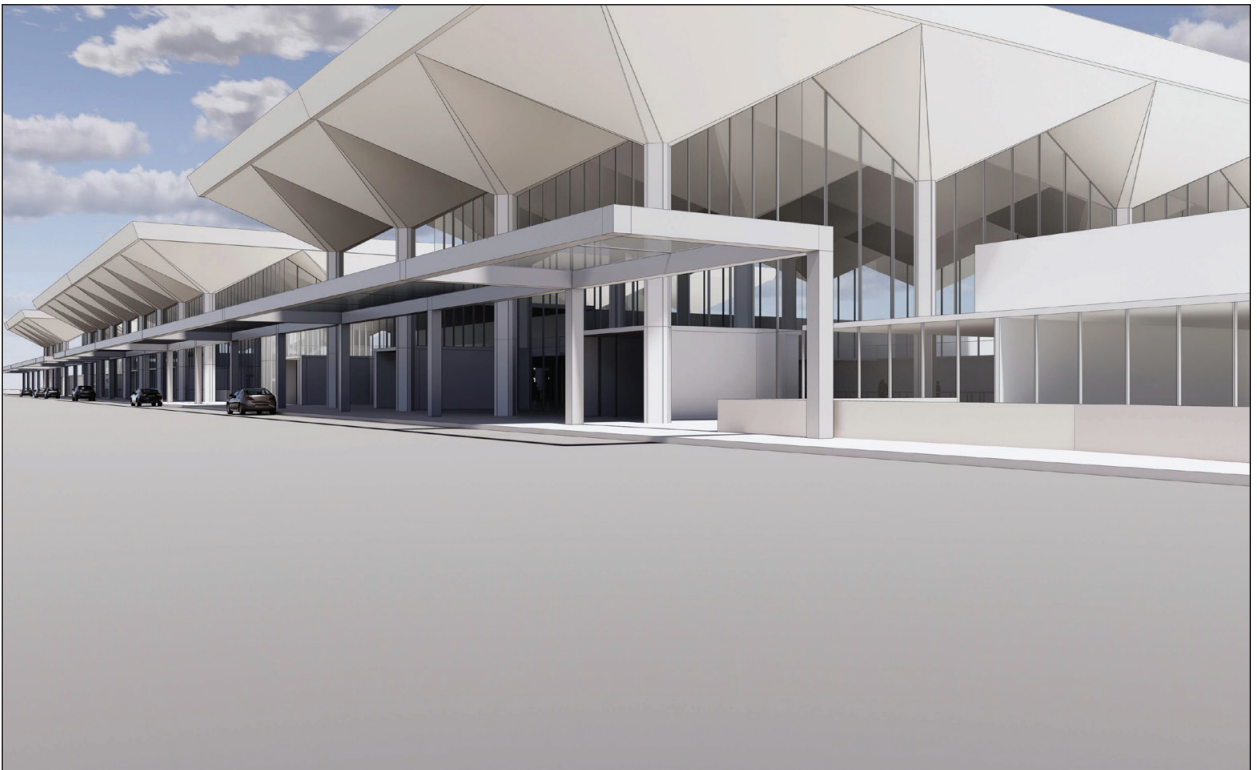
Memphis Terminal, Existing Conditions **Exhibit 4**

Source: Jacobsen Daniels



Proposed Memphis Terminal Rendering **Exhibit 5**

Source: Jacobsen Daniels



Proposed Memphis Terminal Rendering **Exhibit 6**

APPENDIX C

AGENCY CORRESPONDENCE



TENNESSEE HISTORICAL COMMISSION
STATE HISTORIC PRESERVATION OFFICE
2941 LEBANON PIKE
NASHVILLE, TENNESSEE 37243-0442
OFFICE: (615) 532-1550
www.tnhistoricalcommission.org

May 5, 2022

Ms. Anshu Singh
Federal Aviation Administration, Memphis Airports District Office
2600 Thousand Oaks Blvd, Suite 2250
Memphis, TN 38118

RE: FAA / Federal Aviation Administration, Memphis International Airport Terminal
Modernization, Memphis, Shelby County, TN

Dear Ms. Singh:

In response to your request, we have reviewed the documents submitted regarding your proposed undertaking. Our review of and comment on your proposed undertaking are among the requirements of Section 106 of the National Historic Preservation Act. This Act requires federal agencies or applicants for federal assistance to consult with the appropriate State Historic Preservation Office before they carry out their proposed undertakings. The Advisory Council on Historic Preservation has codified procedures for carrying out Section 106 review in 36 CFR 800 (Federal Register, December 12, 2000, 77698-77739) .

Considering available information, we find that the project as currently proposed will adversely affect properties the Memphis International Airport as the proposed work would enclose a row of exterior columns not previously enclosed, add a canopy that will affect the vertical feel of the building, and replace the windows of the airport. It also appears from the provided renderings that the mezzanine will be taken out of the interior. Further, we have concerns about the placement of the new escalator as we are unsure how it fits in with the original design of the interior based on the photographs and renderings submitted. You should continue to consult with our office to resolve the adverse effect. Please direct questions and comments to Casey Lee (615 253-3163). We appreciate your cooperation.

Sincerely,

for: E. Patrick McIntyre, Jr.
State Historic Preservation Officer

Casey Lee
Historic Preservation Specialist/Coordinator
Section 106 Review and Compliance Program
Tennessee State Historic Preservation Office

Jennifer Hogan

Subject: FW: e106 Form for proposed Terminal Modernization Project at the Memphis International Airport, Memphis, Tennessee

Attachments: e106 form logo 2020_ MEM Terminal Modernization.docx; MEM Terminal Modernization Exhibit.pdf; Memphis Terminal Modernization_SHPO Response.pdf; Consulting Parties List.pdf

From: Singh, Anshu (FAA) <Anshu.Singh@faa.gov>

Sent: Friday, August 12, 2022 3:55 PM

To: e106@achp.gov

Cc: James Hay <JHay@flymemphis.com>; Lori Morris <LMorris@flymemphis.com>; Jennifer Hogan <jhogan@akrf.com>; James Rout, III <jrshelbycountyhistorian@gmail.com>; Casey Lee <Casey.Lee@tn.gov>

Subject: e106 Form for proposed Terminal Modernization Project at the Memphis International Airport, Memphis, Tennessee

CAUTION: Sender is from outside MSCAA. Take caution before opening links/attachments or replying with sensitive data. If suspicious, forward to suspicious@flymemphis.com

Hello,

Attached is the e106 form and associated documents for a proposed undertaking by the Memphis-Shelby County Airport Authority at the Memphis International Airport in Tennessee. Please, let me know if you need additional information.

Sincerely,
Anshu

Anshu Singh, Ph.D. (she/her)
Environmental Protection Specialist
Federal Aviation Administration
Memphis Airports District Office
2600 Thousand Oaks Blvd, Suite 2250
Memphis, TN 38118
901-322-8186
anshu.singh@faa.gov

Disclaimer For Memphis-Shelby County Airport Authority The information contained in this electronic mail transmission (including any accompanying attachments) is intended solely for the authorized recipient(s). The information is or may be privileged, confidential and/or exempt from disclosure under applicable law. If you are not an intended recipient, you have received this transmission in error and are hereby notified that you are strictly prohibited from reading, copying, printing, distributing or disclosing any of the information contained in it. If you have received this transmission in error, please immediately contact the person named above by reply e-mail and delete the original and all copies of this transmission (including any attachments) without reading or saving it in any manner. Thank you for your cooperation.



Advisory Council on Historic Preservation
Electronic Section 106 Documentation Submittal System (e106) Form
***MS Word* format**

Send to: e106@achp.gov

Please review the instructions at www.achp.gov/e106-email-form prior to completing this form. Questions about whether to use the e106 form should be directed to the assigned ACHP staff member in the Office of Federal Agency Programs.

I. Basic information

1. Purpose of notification. Indicate whether this documentation is to:

- Notify the ACHP of a finding that an undertaking may adversely affect historic properties
- Invite the ACHP to participate in a Section 106 consultation
- Propose to develop a project Programmatic Agreement (project PA) for complex or multiple undertakings in accordance with 36 C.F.R. 800.14(b)(3)
- Supply additional documentation for a case already entered into the ACHP record system
- File an executed MOA or PA with the ACHP in accordance with 800.6(b)(iv) (where the ACHP did not participate in consultation)
- Other, please describe
[Click here to enter text.](#)

2. ACHP Project Number (If the ACHP was previously notified of the undertaking and an ACHP Project Number has been provided, enter project number here and skip to Item 7 below): [Click here to enter text.](#)

3. Name of federal agency (If multiple agencies, list them all and indicate whether one is the lead agency):

Federal Aviation Administration

4. Name of undertaking/project (Include project/permit/application number if applicable):

Memphis International Airport Terminal Modernization Project

5. Location of undertaking (Indicate city(s), county(s), state(s), land ownership, and whether it would occur on or affect historic properties located on tribal lands):

The proposed project is located in the Memphis International Airport in Memphis, Shelby County, Tennessee. The airport is owned by the Memphis-Shelby County Airport Authority. The proposed undertaking will not occur on or affect historic properties located on tribal lands.

ADVISORY COUNCIL ON HISTORIC PRESERVATION

401 F Street NW, Suite 308 □ Washington, DC 20001-2637
Phone: 202-517-0200 Fax: 202-517-6381 achp@achp.gov www.achp.gov

6. Name and title of federal agency official and contact person for this undertaking, including email address and phone number:

Anshu Singh
 Environmental Protection Specialist
 Federal Aviation Administration
 Memphis Airports District Office
 2600 Thousand Oaks Blvd., Suite 2250
 Memphis, TN 38118
 Phone: 901-322-8186
 Email: anshu.singh@faa.gov

II. Information on the Undertaking*

7. Describe the undertaking and nature of federal involvement (if multiple federal agencies are involved, specify involvement of each):

The Memphis-Shelby County Airport Authority is proposing to modernize its terminal facilities that will expand the face of the building to encompass 60,000 square feet to the north and will include repurposing two-vehicle travel lanes currently used for drop-off and pick-ups on both levels. It will enclose the second row of martini glass pillars within the building. The existing outer two lanes will be used for drop-off and pick-ups. A single-story canopy with adequate height to accommodate traffic may be constructed. In addition, the proposed undertaking will also reconfigure vertical circulation and ticketing lobby, construct a Checked Baggage Inspection System, and expand the Security Screening Checkpoint and the baggage claim. The proposed project is needed to meet future demand, improve customer experience, provide flexibility as operations evolve, improve access in compliance with the Americans with Disabilities Act, improve life safety equipment like the sprinkler system, and ensure seismic resiliency.

8. Describe the Area of Potential Effects (APE):

The entire project area, the footprint of the existing terminal and the first two drop-off/pick-ups vehicle travel lanes adjacent to the existing terminal building on both levels, is defined as the direct APE. The indirect APE was not defined.

9. Describe steps taken to identify historic properties:

Tennessee Historical Commission's website and their Viewer was used to review the list of properties listed in or eligible to be listed in the National Register of Historic Places (NRHP). The Memphis International Airport Terminal is identified as eligible to be listed in the NRHP. No other properties that are listed in the NRHP or have been determined to be eligible for listing are located within the project vicinity. Furthermore, there are no other properties in the project vicinity that appears to meet the National Register criteria.

10. Describe the historic property (or properties) and any National Historic Landmarks within the APE (or attach documentation or provide specific link to this information):

The project location, Memphis International Airport Terminal, is identified as eligible to be listed in the NRHP. The Memphis International Airport Terminal (Terminal B), completed in 1963, was designed by architect Roy Harrover (1928-2016). The terminal was expanded in 1972, adding Terminals A & C additions, which combined with Terminal B are the entirety of the terminal. The building was determined eligible for the NRHP by the Tennessee State Historic Preservation Office (SHPO) in 2019. The building is significant as an example of New Formalist architecture designed by Tennessee-based architect, Roy Harrover, who is considered a master of the New Formalist and Brutalist styles. Character-defining features of the terminal design include the pioneering use of tall, concrete “martini glass”-shaped columns, which Harrover chose for their aesthetic qualities, strength, and economy. Another important feature of the Terminal’s architecture is the two-level nature of the design, allowing passengers to directly access the upper level, which communicated with the airplanes rather than needing to enter at ground level and carry their bags upstairs. An elevated access roadway was integrated into the design, running between the two outer sets of martini glass columns allowing passengers to disembark in a sheltered entry area. Harrover designed the terminal to be expanded as necessary and substantial expansion did occur in the early 1970s (Terminals A and C) with the addition of east and west terminals flanking the main terminal, designed in the same style. An additional upper outer roadway was constructed as part of the parking garage expansion in 1988.

11. Describe the undertaking’s effects on historic properties:

The proposed undertaking will directly impact the terminal building by extending the front face of the building and enclosing the second row of martini glass pillars within the building that are character-defining features of the terminal building. In addition, the original elevated roadway will be modified to make it a part of the terminal and sidewalk. This proposed modification to the elevated roadway would restore original design of the single-roadway approach to the terminal and preserve the two-level nature of the original design. In addition, a single-story canopy with adequate height to accommodate traffic may be constructed. This proposed canopy will be designed to be shorter than the roofline and align with the original aesthetic in terms of color, scale, and design and is not expected to obstruct the view of the martini glass columns.

12. Explain how this undertaking would adversely affect historic properties (include information on any conditions or future actions known to date to avoid, minimize, or mitigate adverse effects):

The expansion of the facility would enclose a row of the exterior martini columns and “light wells”, add a canopy, install a sprinkler system, remove/relocate the escalators, remove a section of the mezzanine on the northern wall for proposed modifications, and replace the windows in the terminal. Most of these changes will remove some of the original structures like the escalators, and the enclosure of the martini columns will affect the vertical feel of the building. To mitigate the effects FAA is in the process of developing a Memorandum of Agreement with the Tennessee Historical Commission, and the Project Proponent.

13. Provide copies or summaries of the views provided to date by any consulting parties, Indian tribes or Native Hawai’ian organizations, or the public, including any correspondence from the SHPO and/or THPO.

Shelby County Historian and Tennessee SHPO participated in the consultation meetings.

Tennessee SHPO restated the proposed project would have an adverse effect as much of the original materials will be altered. Their three main concerns were removing/moving the escalators from their

original locations, removing the mezzanine walkway on the north side of building, and enclosing the martini columns to expand the terminal. SHPO also asked to match the size of the existing windows as much as possible. They suggested a continued consultation process with them during the design process; develop interpretive panels focusing on the historical aspects and qualities of the building for display in the terminal; and a write-up to be distributed to local historical entities in the region for their records.

Shelby County Historian suggested the canopy be lower and in-line with some of the other design elements so that it would not vertically cut off the martini columns. He also pointed out that creating “wells” for light will be a dramatic change.

Correspondence from SHPO is attached.

* see *Instructions for Completing the ACHP e106 Form*

III. Additional Information

14. Please indicate the status of any consultation that has occurred to date, including whether there are any unresolved concerns or issues the ACHP should know about in deciding whether to participate in consultation. Providing a list of consulting parties, including email addresses and phone numbers if known, can facilitate the ACHP’s review response.

The FAA coordinated with the project proponent and Tennessee Historical Commission to identify consulting parties. Eight organizations were invited to be a consulting party. These included the City of Memphis, Shelby County Historian, Western Tennessee Historical Society, Association of the Preservation of Tennessee Antiquities, Memphis Area Association of Governments, Memphis Heritage, Inc., Memphis Landmarks Commission, and the Tennessee Historical Society. Shelby County Historian requested to become a consulting party. One consultation meeting was held on July 29, 2022, that also included a tour of the terminal. The following parties were represented during the consultation: FAA, Tennessee Historical Commission, Shelby County Historian, project proponent, and project proponent’s consultant – ARKF. During the consultation meeting, Section 106 process was described. In addition, the participants discussed the undertaking, anticipated adverse effects, SHPO’s adverse determination of effects, and measures to reduce adverse effect. The consulting parties agreed changes to a terminal are necessary to comply with federal mandates, improve passenger experience, and meet future demand. There are no unresolved concerns or issues. To mitigate the effects FAA is in the process of developing a Memorandum of Agreement with the Tennessee Historical Commission, and the Project Proponent.

List of consulting parties:

Mr. James Rout III
Shelby County Historian,
Email: jrshelbycountyhistorian@gmail.com

Casey Lee
Tennessee Historical Commission
Phone: 615-253-3163
Email: Casey.Lee@tn.gov

James Hay
Memphis International Airport
Phone: 859-767-7021

Email: JHay@flymemphis.com

Jennifer Hogan
AKRF

Phone: 646-388-9868

Email jhogan@akrf.com

15 Does your agency have a website or website link where the interested public can find out about this project and/or provide comments? Please provide relevant links:

No

16. Is this undertaking considered a “major” or “covered” project listed on the Federal Infrastructure Projects Permitting Dashboard? If so, please provide the link:

No

The following are attached to this form (check all that apply):

- Section 106 consultation correspondence
- Maps, photographs, drawings, and/or plans
- Additional historic property information
- Consulting party list with known contact information
- Other:

Memphis Airport Original Building Plans: [MEM - Original Building Plans](#)
Airport Website with historical photos and information: <https://www.airporthistory.org/blue-concourse/memphis-airport-in-the-golden-years> [airporthistory.org]



TENNESSEE HISTORICAL COMMISSION
STATE HISTORIC PRESERVATION OFFICE
2941 LEBANON PIKE
NASHVILLE, TENNESSEE 37243-0442
OFFICE: (615) 532-1550
www.tnhistoricalcommission.org

May 5, 2022

Ms. Anshu Singh
Federal Aviation Administration, Memphis Airports District Office
2600 Thousand Oaks Blvd, Suite 2250
Memphis, TN 38118

RE: FAA / Federal Aviation Administration, Memphis International Airport Terminal
Modernization, Memphis, Shelby County, TN

Dear Ms. Singh:

In response to your request, we have reviewed the documents submitted regarding your proposed undertaking. Our review of and comment on your proposed undertaking are among the requirements of Section 106 of the National Historic Preservation Act. This Act requires federal agencies or applicants for federal assistance to consult with the appropriate State Historic Preservation Office before they carry out their proposed undertakings. The Advisory Council on Historic Preservation has codified procedures for carrying out Section 106 review in 36 CFR 800 (Federal Register, December 12, 2000, 77698-77739) .

Considering available information, we find that the project as currently proposed will adversely affect properties the Memphis International Airport as the proposed work would enclose a row of exterior columns not previously enclosed, add a canopy that will affect the vertical feel of the building, and replace the windows of the airport. It also appears from the provided renderings that the mezzanine will be taken out of the interior. Further, we have concerns about the placement of the new escalator as we are unsure how it fits in with the original design of the interior based on the photographs and renderings submitted. You should continue to consult with our office to resolve the adverse effect. Please direct questions and comments to Casey Lee (615 253-3163). We appreciate your cooperation.

Sincerely,

for: E. Patrick McIntyre, Jr.
State Historic Preservation Officer

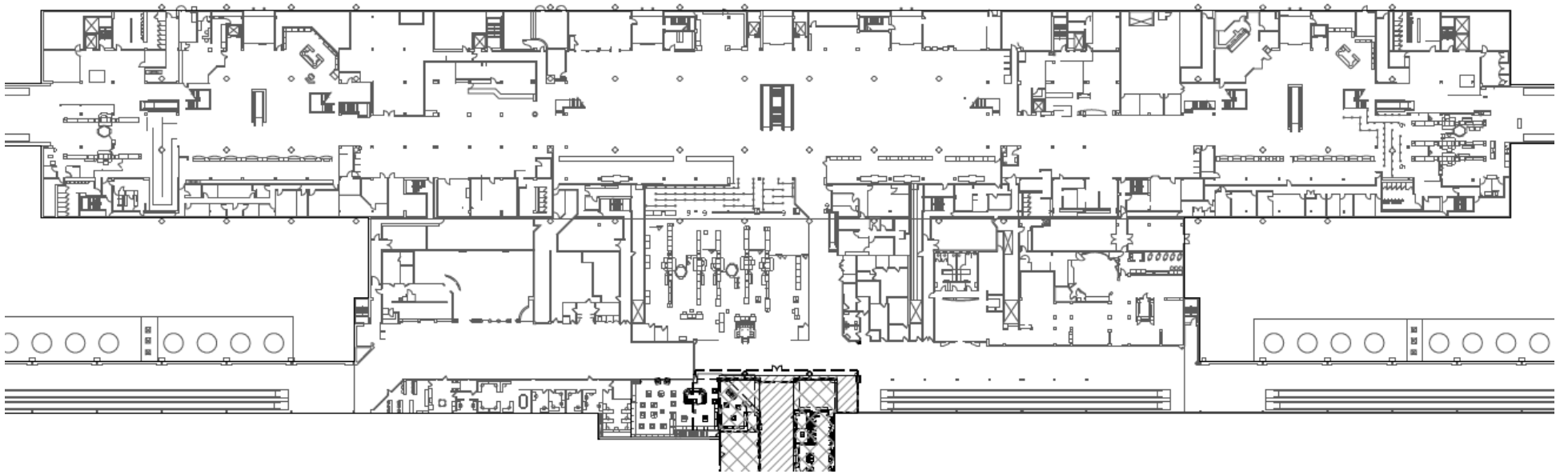
Casey Lee
Historic Preservation Specialist/Coordinator
Section 106 Review and Compliance Program
Tennessee State Historic Preservation Office

An aerial photograph of Memphis, Tennessee, showing the city skyline, the Mississippi River, and the Pyramid of Sun. The image is overlaid with a semi-transparent dark blue rectangle containing the title text.

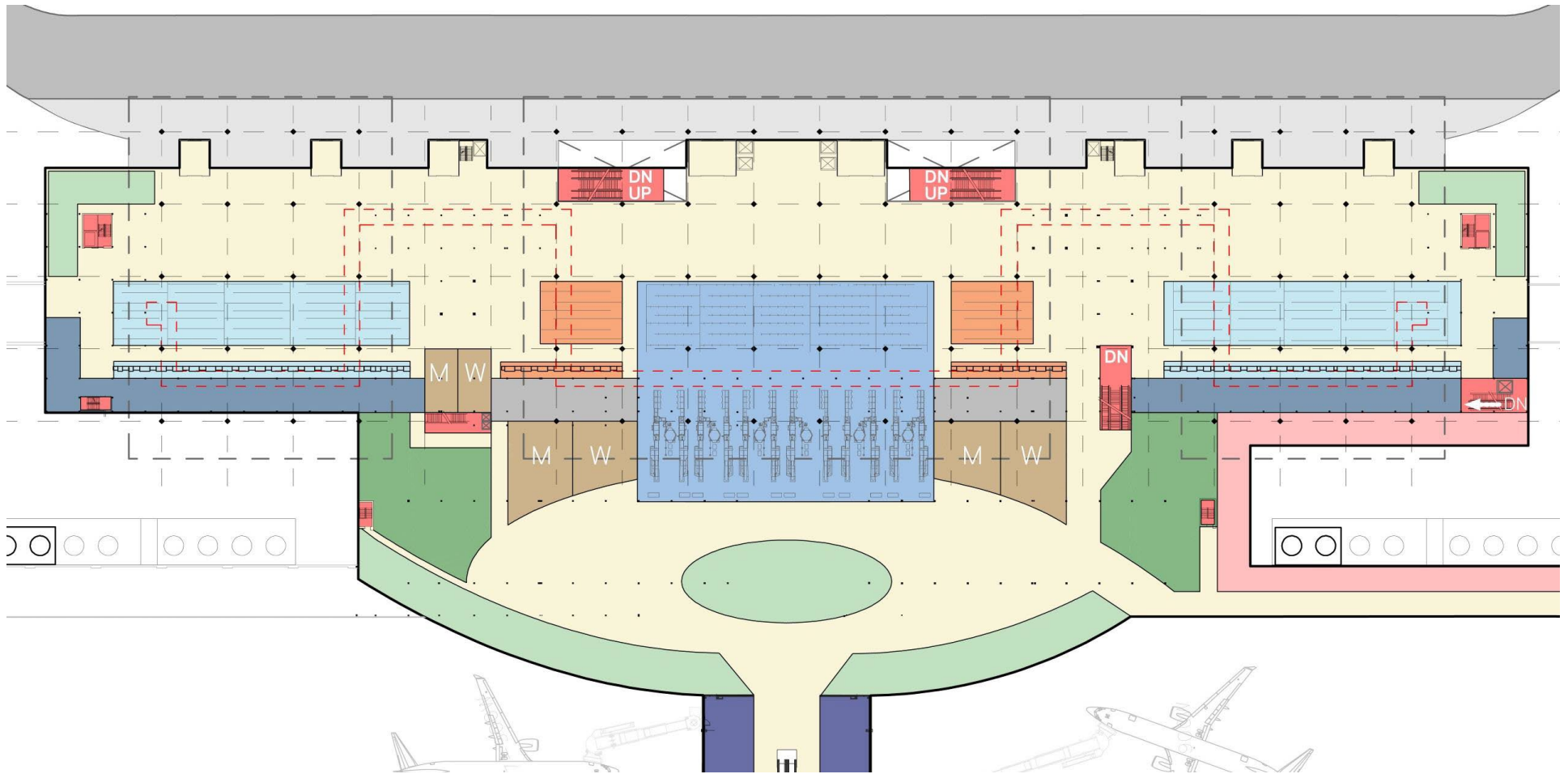
MEMPHIS INTERNATIONAL AIRPORT TERMINAL MODERNIZATION CURRENT VS. FUTURE

Memphis-Shelby County Airport Authority (MSCAA)

Current Terminal – Upper Level

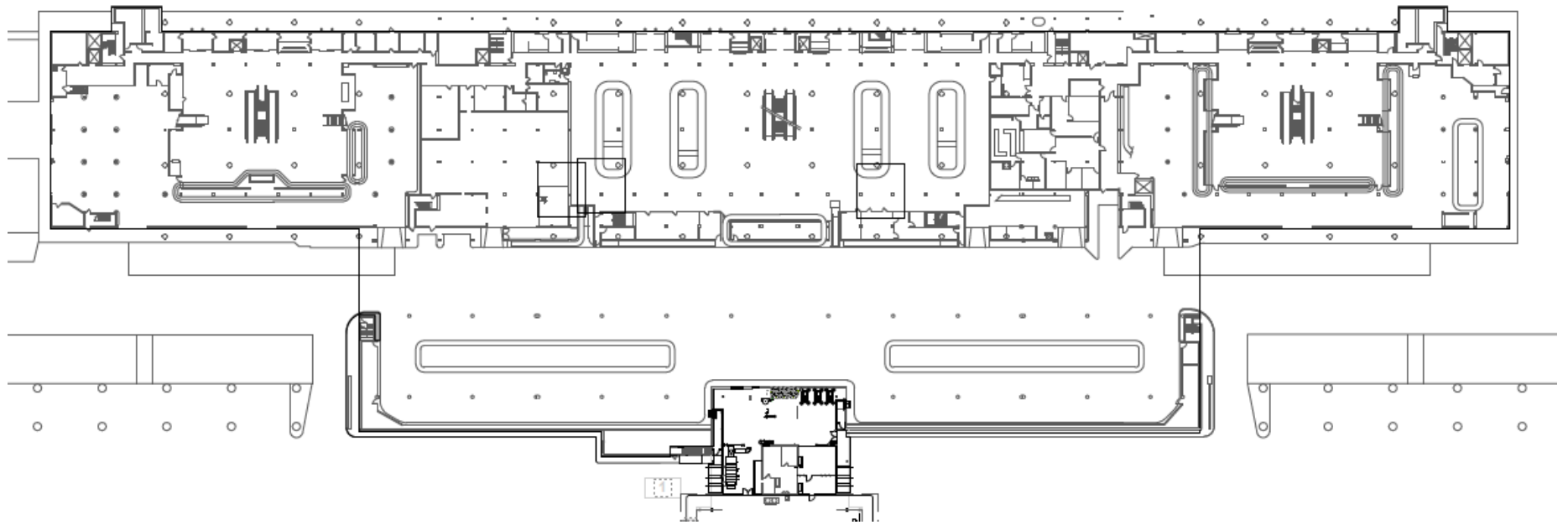


Future Terminal – Upper Level

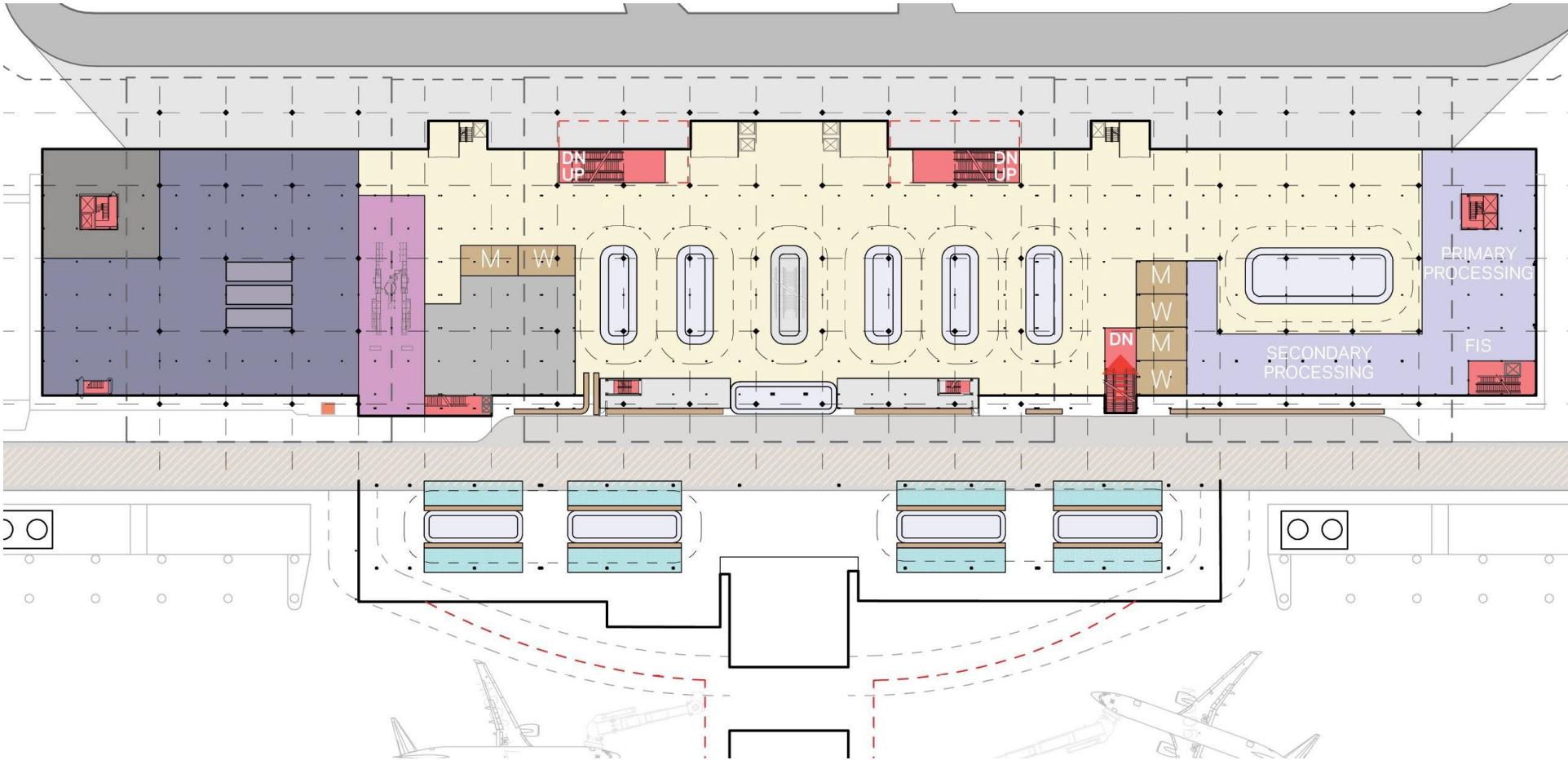


- Expand the face of the building
- Reconfigure vertical circulation
- Reconfigure the ticket lobby
- Expand and modernize Security Screening Checkpoints

Current Terminal – Lower Level



Future Terminal – Lower Level

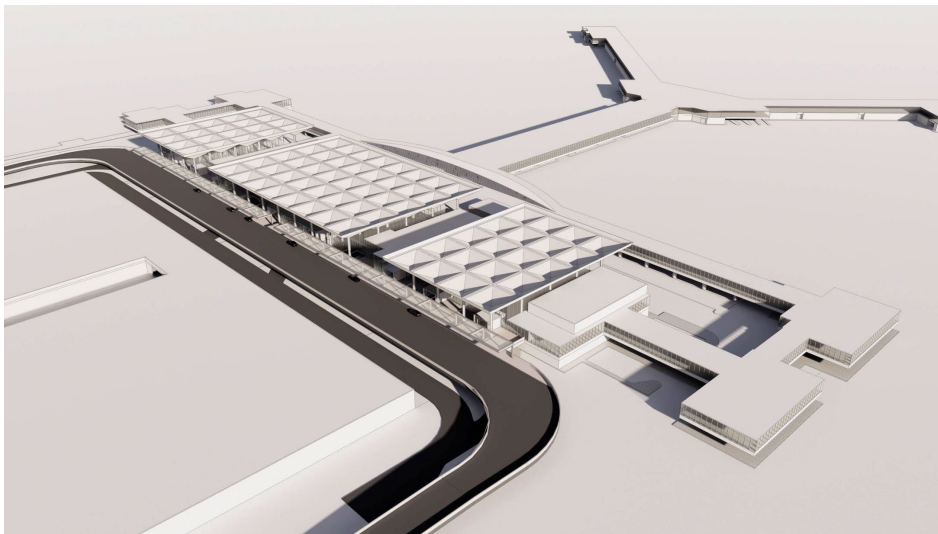


- Construct a modern Central Baggage Inspection System (CBIS)
- Expand bag claim

Current - Aerial of Terminal



Future



Current – Front of Terminal Building



Future



Current – Upper Level at Ticketing Counter & Kiosk



Future



Current – Upper Level – at Security Check Point



Future



Current – Upper Level – Interior along front wall



Future



Current – Lower Level Baggage Carousel area



Future



Memphis International Airport - List of Potential Consulting Parties

6/30/2022

Memphis and Shelby County Historical Commission - Shelby County Historian

James Rout III, Shelby County Historian
Vasco A. Smith, Jr. County Administration Building
160 N. Main Street
Memphis, TN 38103
901-222-2300

Memphis Area Association of Governments, Historic Preservation Program

Kelsey Lamkin
8289 Cordova Road, Suite 103
Cordova, TN 38016
901-729-2871 ext. 103
klamkin@maagov.org

Association of the Preservation of Tennessee Antiquities

110 Leake Avenue
Nashville, TN 37205
theapta@gmail.com

Western Tennessee Historical Society

P.O. Box 111046
Memphis, TN 38111

or

Tennessee Historical Society
David Fox, President
306 Sixth Avenue North
Nashville, TN 37243
615-741-8934

Memphis Heritage, Inc.

Joey Hagan, President or Judy West, Chief Development Officer
2282 Madison Avenue
Memphis, TN 38104
901-272-2727
info@memphisheritage.org
jwest@memphisheritage.org

Memphis Landmarks Commission

Ayse Penzes, Preservation Planner
125 N. Main Street, #477
Memphis, TN 38103
901-636-6619
Ayse.Teziel@memphistn.gov



U.S. Department
of Transportation
**Federal Aviation
Administration**

Memphis Airports District Office
2600 Thousand Oaks Blvd., Suite 2250
Memphis, TN 38118-2486
Phone: 901-322-8180

July 5, 2022

Ms. Kelsey Lamkin
Memphis Area Association of Governments
Historic Preservation Program
8289 Cordova Road, Suite 103
Cordova, TN 38016

Re: Section 106 Consultation for Memphis Shelby County International Airport's Proposed Terminal Modernization Project – Request for Participation

Dear Ms. Lamkin:

This letter is a notification that the Memphis International Airport (MEM) is proposing modernizing its terminal. This project has been determined an 'undertaking' subject to the National Historic Preservation Act (NHPA) and its implementing regulations under Section 106 36 CFR part 800 (as amended). The proposed project and its associated activities are also subject to the National Environmental Policy Act (NEPA). The Federal Aviation Administration (FAA) has initiated preparation of an Environmental Assessment to meet its regulatory obligations. The agency intends to complete Section 106 in conjunction with the NEPA process.

The proposed project will expand the face of the building to encompass 60,000 square feet to the north and will include repurposing two-vehicle travel lanes currently used for drop-off and pick-ups on both levels. It will enclose the second row of martini glass pillars within the building as shown in the attached exhibit. The existing outer two lanes will be used for drop-off and pick-ups. A single-story canopy with adequate height to accommodate traffic may be constructed. In addition, the proposed undertaking will also reconfigure vertical circulation and ticketing lobby, construct a Checked Baggage Inspection System, and expand the Security Screening Checkpoint and the baggage claim. The proposed project will assist the Airport in meeting future demand, improving customer experience, providing flexibility as operations evolve, improving access in compliance with the Americans with Disabilities Act, improving life safety equipment like the sprinkler system, and ensuring seismic resiliency.

The Area of Potential Effects (APE) is the area in which the proposed project may cause alterations in the character or use of historic resources. The proposed Direct APE is defined as the area of potential ground disturbance that will be affected by the undertaking. The entire project area, the footprint of the existing terminal and the first two drop-off/pick-ups vehicle travel lanes adjacent to the existing terminal building on both levels, is defined as the direct APE.

The Memphis International Airport Terminal is listed as eligible to be listed on the National Register of Historic Places (NRHP). The proposed undertaking will adversely affect the terminal building by extending the front face of the building and enclosing the second row of martini glass pillars within the building that are character-defining features of the terminal building. In addition, the original elevated roadway will be modified to make it a part of the terminal and sidewalk.

FAA is identifying organizations with an interest in this project and its potential to affect historic properties. This letter is intended to initiate Section 106 consultation, solicit any initial comments you may have on the proposed undertaking, and to find out whether you wish to become a consulting party for this project. Consulting parties have certain rights and obligations under the NHPA and its implementing regulations at 36 CFR Part 800. By becoming a consulting party, you will be informed of steps in the Section 106 process. Section 106 compliance is a requirement of the NEPA for which an Environmental Assessment is being prepared.

As part of the process, the FAA identified your organization as a potential local interested party that may wish to participate as a consulting party in the Section 106 process. The purpose of this letter is to determine if you wish to participate in that regard. In order to become a consulting party, you must respond by July 12, 2022 to request consulting party status. If you are requesting consulting party status, we request that your organization nominate one representative and an alternate to participate on behalf of the group. Individuals may also participate in the Section 106 process as members of the public.

If you would like to request consulting party status on this project or have any questions, please contact me by email at anshu.singh@faa.gov.

Sincerely,

ANSHU SINGH Digitally signed by ANSHU SINGH
Date: 2022.07.05 15:21:14 -04'00'

Anshu Singh
Environmental Protection Specialist
Memphis Airports District Office

Enclosure

cc: James Hay, Memphis International Airport, Lori Morris, Memphis International Airport, Casey Lee, Tennessee Historical Commission



U.S. Department
of Transportation
**Federal Aviation
Administration**

Memphis Airports District Office
2600 Thousand Oaks Blvd., Suite 2250
Memphis, TN 38118-2486
Phone: 901-322-8180

July 5, 2022

Mr. James Rout III
Shelby County Historian
Vasco A. Smith, Jr. County Administration Building
160 N. Main Street
Memphis, TN 38103

Re: Section 106 Consultation for Memphis Shelby County International Airport's Proposed Terminal Modernization Project – Request for Participation

Dear Mr. Rout:

This letter is a notification that the Memphis International Airport (MEM) is proposing modernizing its terminal. This project has been determined an 'undertaking' subject to the National Historic Preservation Act (NHPA) and its implementing regulations under Section 106 36 CFR part 800 (as amended). The proposed project and its associated activities are also subject to the National Environmental Policy Act (NEPA). The Federal Aviation Administration (FAA) has initiated preparation of an Environmental Assessment to meet its regulatory obligations. The agency intends to complete Section 106 in conjunction with the NEPA process.

The proposed project will expand the face of the building to encompass 60,000 square feet to the north and will include repurposing two-vehicle travel lanes currently used for drop-off and pick-ups on both levels. It will enclose the second row of martini glass pillars within the building as shown in the attached exhibit. The existing outer two lanes will be used for drop-off and pick-ups. A single-story canopy with adequate height to accommodate traffic may be constructed. In addition, the proposed undertaking will also reconfigure vertical circulation and ticketing lobby, construct a Checked Baggage Inspection System, and expand the Security Screening Checkpoint and the baggage claim. The proposed project will assist the Airport in meeting future demand, improving customer experience, providing flexibility as operations evolve, improving access in compliance with the Americans with Disabilities Act, improving life safety equipment like the sprinkler system, and ensuring seismic resiliency.

The Area of Potential Effects (APE) is the area in which the proposed project may cause alterations in the character or use of historic resources. The proposed Direct APE is defined as the area of potential ground disturbance that will be affected by the undertaking. The entire project area, the footprint of the existing terminal and the first two drop-off/pick-ups vehicle travel lanes adjacent to the existing terminal building on both levels, is defined as the direct APE.

The Memphis International Airport Terminal is listed as eligible to be listed on the National Register of Historic Places (NRHP). The proposed undertaking will adversely affect the terminal building by extending the front face of the building and enclosing the second row of martini glass pillars within the building that are character-defining features of the terminal building. In addition, the original elevated roadway will be modified to make it a part of the terminal and sidewalk.

FAA is identifying organizations with an interest in this project and its potential to affect historic properties. This letter is intended to initiate Section 106 consultation, solicit any initial comments you may have on the proposed undertaking, and to find out whether you wish to become a consulting party for this project. Consulting parties have certain rights and obligations under the NHPA and its implementing regulations at 36 CFR Part 800. By becoming a consulting party, you will be informed of steps in the Section 106 process. Section 106 compliance is a requirement of the NEPA for which an Environmental Assessment is being prepared.

As part of the process, the FAA identified your organization as a potential local interested party that may wish to participate as a consulting party in the Section 106 process. The purpose of this letter is to determine if you wish to participate in that regard. In order to become a consulting party, you must respond by July 12, 2022 to request consulting party status. If you are requesting consulting party status, we request that your organization nominate one representative and an alternate to participate on behalf of the group. Individuals may also participate in the Section 106 process as members of the public.

If you would like to request consulting party status on this project or have any questions, please contact me by email at anshu.singh@faa.gov.

Sincerely,

ANSHU SINGH

Digitally signed by ANSHU SINGH
Date: 2022.07.05 15:19:33 -04'00'

Anshu Singh
Environmental Protection Specialist
Memphis Airports District Office

Enclosure

cc: James Hay, Memphis International Airport, Lori Morris, Memphis International Airport, Casey Lee, Tennessee Historical Commission



U.S. Department
of Transportation
**Federal Aviation
Administration**

Memphis Airports District Office
2600 Thousand Oaks Blvd., Suite 2250
Memphis, TN 38118-2486
Phone: 901-322-8180

July 5, 2022

Mr. John Rochford, President
Association of the Preservation of Tennessee Antiquities
110 Leake Avenue
Nashville, TN 37205

Re: Section 106 Consultation for Memphis Shelby County International Airport's Proposed Terminal Modernization Project – Request for Participation

Dear Mr. Rochford:

This letter is a notification that the Memphis International Airport (MEM) is proposing modernizing its terminal. This project has been determined an 'undertaking' subject to the National Historic Preservation Act (NHPA) and its implementing regulations under Section 106 36 CFR part 800 (as amended). The proposed project and its associated activities are also subject to the National Environmental Policy Act (NEPA). The Federal Aviation Administration (FAA) has initiated preparation of an Environmental Assessment to meet its regulatory obligations. The agency intends to complete Section 106 in conjunction with the NEPA process.

The proposed project will expand the face of the building to encompass 60,000 square feet to the north and will include repurposing two-vehicle travel lanes currently used for drop-off and pick-ups on both levels. It will enclose the second row of martini glass pillars within the building as shown in the attached exhibit. The existing outer two lanes will be used for drop-off and pick-ups. A single-story canopy with adequate height to accommodate traffic may be constructed. In addition, the proposed undertaking will also reconfigure vertical circulation and ticketing lobby, construct a Checked Baggage Inspection System, and expand the Security Screening Checkpoint and the baggage claim. The proposed project will assist the Airport in meeting future demand, improving customer experience, providing flexibility as operations evolve, improving access in compliance with the Americans with Disabilities Act, improving life safety equipment like the sprinkler system, and ensuring seismic resiliency.

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FAA is identifying organizations with an interest in this project and its potential to affect historic properties. This letter is intended to initiate Section 106 consultation, solicit any initial comments you may have on the proposed undertaking, and to find out whether you wish to become a consulting party for this project. Consulting parties have certain rights and obligations under the NHPA and its implementing regulations at 36 CFR Part 800. By becoming a consulting party, you will be informed of steps in the Section 106 process. Section 106 compliance is a requirement of the NEPA for which an Environmental Assessment is being prepared.

As part of the process, the FAA identified your organization as a potential local interested party that may wish to participate as a consulting party in the Section 106 process. The purpose of this letter is to determine if you wish to participate in that regard. In order to become a consulting party, you must respond by July 12, 2022 to request consulting party status. If you are requesting consulting party status, we request that your organization nominate one representative and an alternate to participate on behalf of the group. Individuals may also participate in the Section 106 process as members of the public.

If you would like to request consulting party status on this project or have any questions, please contact me by email at anshu.singh@faa.gov.

Sincerely,

ANSHU SINGH Digitally signed by ANSHU SINGH
Date: 2022.07.05 15:24:16 -04'00'

Anshu Singh
Environmental Protection Specialist
Memphis Airports District Office

Enclosure

cc: James Hay, Memphis International Airport, Lori Morris, Memphis International Airport, Casey Lee, Tennessee Historical Commission



U.S. Department
of Transportation
**Federal Aviation
Administration**

Memphis Airports District Office
2600 Thousand Oaks Blvd., Suite 2250
Memphis, TN 38118-2486
Phone: 901-322-8180

July 5, 2022

Ms. Jennifer C. Core, Executive Director
Tennessee Historical Society
306 Sixth Avenue North
Nashville, TN 37243

Re: Section 106 Consultation for Memphis Shelby County International Airport's Proposed Terminal Modernization Project – Request for Participation

Dear Ms. Core:

This letter is a notification that the Memphis International Airport (MEM) is proposing modernizing its terminal. This project has been determined an 'undertaking' subject to the National Historic Preservation Act (NHPA) and its implementing regulations under Section 106 36 CFR part 800 (as amended). The proposed project and its associated activities are also subject to the National Environmental Policy Act (NEPA). The Federal Aviation Administration (FAA) has initiated preparation of an Environmental Assessment to meet its regulatory obligations. The agency intends to complete Section 106 in conjunction with the NEPA process.

The proposed project will expand the face of the building to encompass 60,000 square feet to the north and will include repurposing two-vehicle travel lanes currently used for drop-off and pick-ups on both levels. It will enclose the second row of martini glass pillars within the building as shown in the attached exhibit. The existing outer two lanes will be used for drop-off and pick-ups. A single-story canopy with adequate height to accommodate traffic may be constructed. In addition, the proposed undertaking will also reconfigure vertical circulation and ticketing lobby, construct a Checked Baggage Inspection System, and expand the Security Screening Checkpoint and the baggage claim. The proposed project will assist the Airport in meeting future demand, improving customer experience, providing flexibility as operations evolve, improving access in compliance with the Americans with Disabilities Act, improving life safety equipment like the sprinkler system, and ensuring seismic resiliency.

The Area of Potential Effects (APE) is the area in which the proposed project may cause alterations in the character or use of historic resources. The proposed Direct APE is defined as the area of potential ground disturbance that will be affected by the undertaking. The entire project area, the footprint of the existing terminal and the first two drop-off/pick-ups vehicle travel lanes adjacent to the existing terminal building on both levels, is defined as the direct APE.

The Memphis International Airport Terminal is listed as eligible to be listed on the National Register of Historic Places (NRHP). The proposed undertaking will adversely affect the terminal building by extending the front face of the building and enclosing the second row of martini glass pillars within the building that are character-defining features of the terminal building. In addition, the original elevated roadway will be modified to make it a part of the terminal and sidewalk.


FAA is identifying organizations with an interest in this project and its potential to affect historic properties. This letter is intended to initiate Section 106 consultation, solicit any initial comments you may have on the proposed undertaking, and to find out whether you wish to become a consulting party for this project. Consulting parties have certain rights and obligations under the NHPA and its implementing regulations at 36 CFR Part 800. By becoming a consulting party, you will be informed of steps in the Section 106 process. Section 106 compliance is a requirement of the NEPA for which an Environmental Assessment is being prepared.

As part of the process, the FAA identified your organization as a potential local interested party that may wish to participate as a consulting party in the Section 106 process. The purpose of this letter is to determine if you wish to participate in that regard. In order to become a consulting party, you must respond by July 12, 2022 to request consulting party status. If you are requesting consulting party status, we request that your organization nominate one representative and an alternate to participate on behalf of the group. Individuals may also participate in the Section 106 process as members of the public.

If you would like to request consulting party status on this project or have any questions, please contact me by email at anshu.singh@faa.gov.

Sincerely,

ANSHU SINGH

 Digitally signed by ANSHU SINGH
Date: 2022.07.05 15:30:22 -04'00'

Anshu Singh
Environmental Protection Specialist
Memphis Airports District Office

Enclosure

cc: James Hay, Memphis International Airport, Lori Morris, Memphis International Airport, Casey Lee, Tennessee Historical Commission



U.S. Department
of Transportation
**Federal Aviation
Administration**

Memphis Airports District Office
2600 Thousand Oaks Blvd., Suite 2250
Memphis, TN 38118-2486
Phone: 901-322-8180

July 5, 2022

Ms. Judy West, Chief Development Officer
Memphis Heritage, Inc.
2282 Madison Avenue
Memphis, TN 38104

Re: Section 106 Consultation for Memphis Shelby County International Airport's Proposed Terminal Modernization Project – Request for Participation

Dear Ms. West:

This letter is a notification that the Memphis International Airport (MEM) is proposing modernizing its terminal. This project has been determined an 'undertaking' subject to the National Historic Preservation Act (NHPA) and its implementing regulations under Section 106 36 CFR part 800 (as amended). The proposed project and its associated activities are also subject to the National Environmental Policy Act (NEPA). The Federal Aviation Administration (FAA) has initiated preparation of an Environmental Assessment to meet its regulatory obligations. The agency intends to complete Section 106 in conjunction with the NEPA process.

The proposed project will expand the face of the building to encompass 60,000 square feet to the north and will include repurposing two-vehicle travel lanes currently used for drop-off and pick-ups on both levels. It will enclose the second row of martini glass pillars within the building as shown in the attached exhibit. The existing outer two lanes will be used for drop-off and pick-ups. A single-story canopy with adequate height to accommodate traffic may be constructed. In addition, the proposed undertaking will also reconfigure vertical circulation and ticketing lobby, construct a Checked Baggage Inspection System, and expand the Security Screening Checkpoint and the baggage claim. The proposed project will assist the Airport in meeting future demand, improving customer experience, providing flexibility as operations evolve, improving access in compliance with the Americans with Disabilities Act, improving life safety equipment like the sprinkler system, and ensuring seismic resiliency.

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FAA is identifying organizations with an interest in this project and its potential to affect historic properties. This letter is intended to initiate Section 106 consultation, solicit any initial comments you may have on the proposed undertaking, and to find out whether you wish to become a consulting party for this project. Consulting parties have certain rights and obligations under the NHPA and its implementing regulations at 36 CFR Part 800. By becoming a consulting party, you will be informed of steps in the Section 106 process. Section 106 compliance is a requirement of the NEPA for which an Environmental Assessment is being prepared.

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If you would like to request consulting party status on this project or have any questions, please contact me by email at anshu.singh@faa.gov.

Sincerely,

ANSHU SINGH Digitally signed by ANSHU SINGH
Date: 2022.07.05 15:32:50 -04'00'

Anshu Singh
Environmental Protection Specialist
Memphis Airports District Office

Enclosure

cc: James Hay, Memphis International Airport, Lori Morris, Memphis International Airport, Casey Lee, Tennessee Historical Commission



U.S. Department
of Transportation
**Federal Aviation
Administration**

Memphis Airports District Office
2600 Thousand Oaks Blvd., Suite 2250
Memphis, TN 38118-2486
Phone: 901-322-8180

July 5, 2022

Mr. Ayse Penzes, Preservation Planner
Memphis Landmarks Commission
125 N. Main Street, #477
Memphis, TN 38103

Re: Section 106 Consultation for Memphis Shelby County International Airport's Proposed Terminal Modernization Project – Request for Participation

Dear Mr. Penzes:

This letter is a notification that the Memphis International Airport (MEM) is proposing modernizing its terminal. This project has been determined an 'undertaking' subject to the National Historic Preservation Act (NHPA) and its implementing regulations under Section 106 36 CFR part 800 (as amended). The proposed project and its associated activities are also subject to the National Environmental Policy Act (NEPA). The Federal Aviation Administration (FAA) has initiated preparation of an Environmental Assessment to meet its regulatory obligations. The agency intends to complete Section 106 in conjunction with the NEPA process.

The proposed project will expand the face of the building to encompass 60,000 square feet to the north and will include repurposing two-vehicle travel lanes currently used for drop-off and pick-ups on both levels. It will enclose the second row of martini glass pillars within the building as shown in the attached exhibit. The existing outer two lanes will be used for drop-off and pick-ups. A single-story canopy with adequate height to accommodate traffic may be constructed. In addition, the proposed undertaking will also reconfigure vertical circulation and ticketing lobby, construct a Checked Baggage Inspection System, and expand the Security Screening Checkpoint and the baggage claim. The proposed project will assist the Airport in meeting future demand, improving customer experience, providing flexibility as operations evolve, improving access in compliance with the Americans with Disabilities Act, improving life safety equipment like the sprinkler system, and ensuring seismic resiliency.

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FAA is identifying organizations with an interest in this project and its potential to affect historic properties. This letter is intended to initiate Section 106 consultation, solicit any initial comments you may have on the proposed undertaking, and to find out whether you wish to become a consulting party for this project. Consulting parties have certain rights and obligations under the NHPA and its implementing regulations at 36 CFR Part 800. By becoming a consulting party, you will be informed of steps in the Section 106 process. Section 106 compliance is a requirement of the NEPA for which an Environmental Assessment is being prepared.

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If you would like to request consulting party status on this project or have any questions, please contact me by email at anshu.singh@faa.gov.

Sincerely,

ANSHU SINGH Digitally signed by ANSHU SINGH
Date: 2022.07.05 15:34:31 -04'00'

Anshu Singh
Environmental Protection Specialist
Memphis Airports District Office

Enclosure

cc: James Hay, Memphis International Airport, Lori Morris, Memphis International Airport, Casey Lee, Tennessee Historical Commission



U.S. Department
of Transportation
**Federal Aviation
Administration**

Memphis Airports District Office
2600 Thousand Oaks Blvd., Suite 2250
Memphis, TN 38118-2486
Phone: 901-322-8180

July 5, 2022

Mr. Michael Freeman, President
Western Tennessee Historical Society
P.O. Box 111046
Memphis, TN 38111

Re: Section 106 Consultation for Memphis Shelby County International Airport's Proposed Terminal Modernization Project – Request for Participation

Dear Mr. Freeman:

This letter is a notification that the Memphis International Airport (MEM) is proposing modernizing its terminal. This project has been determined an 'undertaking' subject to the National Historic Preservation Act (NHPA) and its implementing regulations under Section 106 36 CFR part 800 (as amended). The proposed project and its associated activities are also subject to the National Environmental Policy Act (NEPA). The Federal Aviation Administration (FAA) has initiated preparation of an Environmental Assessment to meet its regulatory obligations. The agency intends to complete Section 106 in conjunction with the NEPA process.

The proposed project will expand the face of the building to encompass 60,000 square feet to the north and will include repurposing two-vehicle travel lanes currently used for drop-off and pick-ups on both levels. It will enclose the second row of martini glass pillars within the building as shown in the attached exhibit. The existing outer two lanes will be used for drop-off and pick-ups. A single-story canopy with adequate height to accommodate traffic may be constructed. In addition, the proposed undertaking will also reconfigure vertical circulation and ticketing lobby, construct a Checked Baggage Inspection System, and expand the Security Screening Checkpoint and the baggage claim. The proposed project will assist the Airport in meeting future demand, improving customer experience, providing flexibility as operations evolve, improving access in compliance with the Americans with Disabilities Act, improving life safety equipment like the sprinkler system, and ensuring seismic resiliency.

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If you would like to request consulting party status on this project or have any questions, please contact me by email at anshu.singh@faa.gov.

Sincerely,

ANSHU SINGH Digitally signed by ANSHU SINGH
Date: 2022.07.05 15:27:12 -04'00'

Anshu Singh
Environmental Protection Specialist
Memphis Airports District Office

Enclosure

cc: James Hay, Memphis International Airport, Lori Morris, Memphis International Airport, Casey Lee, Tennessee Historical Commission



U.S. Department
of Transportation
**Federal Aviation
Administration**

Memphis Airports District Office
2600 Thousand Oaks Blvd., Suite 2250
Memphis, TN 38118-2486
Phone: 901-322-8180

July 5, 2022

Mr. Glenn Vaultx, Environmental Analyst
City of Memphis - Division of Housing and Community Development
170 N. Main Street
Memphis, TN 38103

Re: Section 106 Consultation for Memphis Shelby County International Airport's Proposed Terminal Modernization Project – Request for Participation

Dear Mr. Vaultx:

This letter is a notification that the Memphis International Airport (MEM) is proposing modernizing its terminal. This project has been determined an 'undertaking' subject to the National Historic Preservation Act (NHPA) and its implementing regulations under Section 106 36 CFR part 800 (as amended). The proposed project and its associated activities are also subject to the National Environmental Policy Act (NEPA). The Federal Aviation Administration (FAA) has initiated preparation of an Environmental Assessment to meet its regulatory obligations. The agency intends to complete Section 106 in conjunction with the NEPA process.

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If you would like to request consulting party status on this project or have any questions, please contact me by email at anshu.singh@faa.gov.

Sincerely,

ANSHU SINGH Digitally signed by ANSHU SINGH
Date: 2022.07.05 17:32:30 -04'00'

Anshu Singh
Environmental Protection Specialist
Memphis Airports District Office

Enclosure

cc: James Hay, Memphis International Airport, Lori Morris, Memphis International Airport, Casey Lee, Tennessee Historical Commission



August 22, 2022

Anshu Singh, Ph.D.
Environmental Protection Specialist
Federal Aviation Administration
Memphis Airports District Office
2600 Thousand Oaks Blvd, Suite 2250
Memphis, TN 38118

Ref: *Proposed Memphis International Airport Terminal Modernization Project*
Memphis, Shelby County, Tennessee
ACHP Project Number: 18648

Dear Dr. Singh:

On August 12, 2022, the Advisory Council on Historic Preservation (ACHP) received your notification and supporting documentation regarding the potential adverse effects of the referenced undertaking on a property or properties listed or eligible for listing in the National Register of Historic Places. Based upon the information you provided, we have concluded that Appendix A, *Criteria for Council Involvement in Reviewing Individual Section 106 Cases*, of our regulations, "Protection of Historic Properties" (36 CFR Part 800) implementing Section 106 of the National Historic Preservation Act, does not apply to this undertaking. Accordingly, we do not believe our participation in the consultation to resolve adverse effects is needed.

However, if we receive a request for participation from the State Historic Preservation Officer, Tribal Historic Preservation Officer, affected Indian tribe, a consulting party, or other party, we may reconsider this decision. Should the undertaking's circumstances change, consulting parties cannot come to consensus, or you need further advisory assistance to conclude the consultation process, please contact us.

Pursuant to Section 800.6(b)(1)(iv), you will need to file the final Section 106 agreement document (Agreement), developed in consultation with the Tennessee State Historic Preservation Office and any other consulting parties, and related documentation with the ACHP at the conclusion of the consultation process. The filing of the Agreement and supporting documentation with the ACHP is required in order to complete the requirements of Section 106 of the National Historic Preservation Act.

Thank you for providing us with your notification of adverse effect. If you have any questions or require our further assistance, please contact Mr. Anthony Guy Lopez at (202) 517-0220 or by e-mail at alopez@achp.gov and reference the ACHP Project Number above.

Sincerely,

LaShavio Johnson
Historic Preservation Technician
Office of Federal Agency Programs

APPENDIX D
CULTURAL RESOURCES ALTERNATIVES
MEMORANDUM

**Memphis International Airport
Terminal Modernization Project
Section 106 Alternatives Analysis Memorandum**

DRAFT FOR AGENCY REVIEW

September 2022

A. INTRODUCTION

The Memphis Shelby County Airport Authority (MSCAA) is proposing the Memphis International Airport Terminal Modernization Project (“Project”) to modernize the terminal facilities at Memphis International Airport (MEM, Airport) in the City of Memphis, Shelby County, Tennessee. The Project would ensure seismic resiliency, meet future passenger demand, improve life safety equipment, improve the customer experience, provide for flexibility as operations evolve, and improve access in compliance with the Americans with Disabilities Act (ADA). The project scope would extend the north face of the terminal, reconfigure vertical circulation, reconfigure the ticketing lobby, expand the Security Screening Checkpoint (SSCP), and expand and modernize the baggage collection and distribution system.

MSCAA is preparing an Environmental Assessment (EA) pursuant to the National Environmental Policy Act of 1969, as amended (NEPA) for approval by the Federal Aviation Administration (FAA). The Proposed Project is also subject to Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA). FAA is serving as the lead federal agency under Section 106.

The Memphis International Airport Terminal was determined eligible for the National Register of Historic Places (NRHP) by the Tennessee State Historic Preservation Office (SHPO) in 2019. In a letter dated May 5, 2022, SHPO commented that the Project would adversely affect the NRHP-eligible Memphis International Airport Terminal. In a subsequent meeting attended by MSCAA, FAA, SHPO, and participating Section 106 Consulting Parties on July 29, 2022, SHPO staff indicated their acknowledgement of the purpose and need of the Project and reiterated that alterations to the historic terminal under the Project would be substantial enough to constitute an adverse effect under Section 106. SHPO staff indicated that concerns included exterior alterations that would affect the historic appearance of the building’s facade, including increase of the building’s square footage by creating a new glass façade to the north and removing the mezzanine walkway on the north side of the building. The design of a proposed new exterior canopy was also discussed. SHPO staff indicated that concerns for proposed interior changes were largely limited to the proposed change in the location of the interior escalators.

Section 106 requires that agencies “develop and evaluate alternatives or modifications to the undertaking that could avoid, minimize, or mitigate adverse effects on historic properties” (36 CFR 800.6). Therefore, this Alternatives Analysis has been prepared to evaluate the potential for alternatives that would avoid or minimize the potential adverse effects to the NRHP-eligible Memphis International Airport Terminal while achieving the goals of the project. The analysis concludes that none of the alternatives that achieve the project’s goals avoid adverse effects to the historic terminal. The Preferred Alternative (Alternative E) successfully achieves the project’s goals while retaining the historic terminal and the majority of its character-defining features. While the project would require alterations to the terminal that would constitute an adverse effect on the historic property under Section 106, the Preferred Alternative incorporates measures to minimize the adverse effect and retain, to the extent practicable, the historic character of the building.

B. PROJECT PURPOSE AND NEED

As described above, MSCAA owns and operates Memphis International Airport (MEM, Airport) in Shelby County, Tennessee (**Figures 1 and 2**). The Airport's terminal building is no longer of adequate design or capacity to meet the current or future functional needs for passengers. In addition, the building's design does not currently meet building safety, seismic, TSA, and FAA standards.

The purpose of the project is to provide passengers, airlines, TSA, and employees with a terminal space that would accommodate current and future passenger demand, meets building safety, seismic, TSA, and FAA standards, as well as enhance passenger flow in the space while preserving the historic character of the original terminal building. The project is imperative to the efficient and safe use of MEM's existing terminal buildings. The need for terminal modernization also includes providing flexibility to react to evolving passenger processing flows, modernization of baggage inspection, more efficient and expanded security screening, more efficient vertical circulation, and remote passenger processing.

GOALS AND OBJECTIVES

The MEM passenger terminal is a building which is composed of three sections known as Terminals A, B, and C. These three sections are connected by open hallways and have access to one "Y" shaped concourse (Concourse B) (**Figure 3**). Terminal B is the central and original section of the building, completed in 1963; the building was expanded to the east and west in 1972, with Terminals A and C. All three terminals are collectively referred to as the MEM passenger terminal building.

The primary concourse (Concourse B) recently underwent an extensive renovation to modernize and update it from a safety and passenger experience perspective. In 2022, this concourse was opened and consolidates passenger gates to this area. The terminal building, which connects to this concourse, provides approximately 560,000 square feet of space on four levels: Tunnel Level, Apron Level, Concourse Level, and Mezzanine Level. In its current configuration, the terminal building is undersized and does not meet the existing and future needs of the Airport for its employees or passengers.

MSCAA's current master planning effort, which is in progress, has defined the improvements that are required to provide an efficient and modern airport facility that would accommodate future demand through 2042 and beyond. Regarding MEM's passenger terminal complex, MSCAA's focus is to ensure that the terminals can accommodate future demand, meet current building codes, reflect modern airline operations/passenger needs, and contribute to MSCAA's sustainability goals.

The passenger security screening checkpoint, elevator/escalator capacity, baggage systems and overall passenger circulation areas all do not meet today's demand levels, including peak times, or the anticipated future growth. The security screening checkpoint and ticket counter line queues routinely back-up into the lobby, which impact circulation areas, particularly the exit/entry points for the escalators and stairs to/from the baggage level. During these times, the terminal building's internal layout does not effectively accommodate this demand, presents safety concerns, and does not reflect a modern level of passenger experience and efficiency for airlines, the TSA, and other tenants. Specifically, the terminal ticketing level becomes highly congested. The security screening checkpoint and ticket counter line queues routinely back-up into the lobby, which impacts circulation

areas, particularly the exit/entry points for the escalators and stairs to/from the baggage level. During these times, passengers back up into the escalators, which creates safety concerns for those in line as well as the passengers arriving to the area via the escalator and staircase.

Other deficiencies exist in the building due to the overall need for more space within the building and the impediments to passenger flow resulting from the location of the escalators, ticket lobbies, and the overall interior layout of the building. It was not designed to accommodate the passenger levels experienced today, the estimated growth of the next 20 years, the operational needs of modern airline industry, or modern security processes and requirements.

The project would achieve the goals of bringing the building up to modern seismic resiliency and life safety standards as well as improve passenger flow and congestion in the terminal at peak times. Modifications include the reconfiguration of the space to (1) eliminate congestion that results in safety concerns, (2) improve Americans with Disabilities Act (ADA) accessibility, and (3) serve modern airline, TSA, and other tenant operations. The measures to accomplish these goals would also enhance and improve the passenger experience, while seeking, to the extent practicable, to preserve and enhance the historic character of the facility.

DESCRIPTION OF THE PROJECT

For the MSCAA to continue to operate from the existing MEM passenger terminal building, a reconfiguration of the interior of the building is required, including an increase to the building's interior square footage. The Project includes the elements described below and illustrated in **Figures 4 and 5** and in **Attachment A**.

- Terminal Space Expansion and Reconfiguration: The terminal building would be expanded to encompass 60,000 square feet of additional interior space to the north, with a new façade constructed to the north of the existing that emulates the current one. The new indoor space created would occur within the envelope of the existing building's structural columns and roof line, which currently overhang the curbside lanes. The two vehicle travel lanes, currently used for drop-offs and pick-ups on both levels, would be repurposed as the interior space.
 - o Relocation of the north wall - A newly constructed façade to the north would maintain the look of the existing north façade, with the major characteristics of glass window and brick. However, some areas that currently use brick would be replaced in the new north wall with windows for better visibility of character-defining historic architectural elements of the building (columns and roof line that would remain unchanged). Modern materials would replace the existing windows, resulting in the use of a safer, more seismic-resilient glass that would be more energy efficient. The new glass panes would be similar to the appearance of the existing windows to the extent technology allows.
 - o Relocation and expansion of the vertical circulation (escalators and elevators) - Each of the three terminals has a vertical escalator core in the center of the ticket lobby/bag claim. These cores would be consolidated to two new cores located on the north side of the central section of the terminal building, in the expansion space. Elevator banks would be centralized to be easily accessible for ADA and other users, and the size and number of elevators would meet current modern airport terminal standards.

- o Removal of mezzanine connector at north face of the terminal building - Currently the mezzanines flanking Terminal B are connected by two catwalks, one at the north façade of the building and one along the southern side of the building. With the relocation of the north façade and vertical circulation cores, the north catwalk would not be replaced.
- o Central Baggage Inspection System (CBIS) - Modern baggage inspection processes would be constructed in the lower level of Terminal A. This type of system is the standard for the TSA, providing the highest level of efficiency and security. This system would also be required to meet future demand levels.
- o Expansion of the security checkpoint – The existing security checkpoint would be expanded in the middle of the terminal building to meet future demand and modernized to accommodate current TSA processes and procedures.
- o Ticketing reconfiguration – Ticket counters would be consolidated on either side of the expanded security screening checkpoint with modern check-in kiosk areas and accommodations for self-bag drop.
- o Baggage claim reconfiguration – The baggage claim area would be expanded to accommodate two new baggage belts. One of these would be located in the centralized vertical core (on the lower level of Terminal B) and the other unit would be located to the east.
- o Employee screening – A dedicated employee security screening area would be created to accommodate the anticipated mandate that employee security screening be separated from passenger screening.
- o Departure level curbside canopy – To protect departing passengers from the weather elements when being dropped off on the curb, a canopy would be constructed covering the resulting curbside lanes of the roadway after the façade relocation.
- o Federal Inspection Service (FIS) facility – A new FIS would be constructed to adequately accommodate international arrivals, configured such that the baggage claim carousel and aircraft gate can flex between international and domestic operations.
- Code and Safety Updates:
 - o Seismic - A primary goal of the project is to seismically upgrade the terminal to meet modern standards. A recently completed Seismic Risk Assessment concluded that the martini glass-shaped structure would not withstand a significant seismic event and therefore, continued use of the facility would require modifications to seismically protect the building.
 - o Fire Protection - Sprinklers would be installed in portions of the terminal area that currently do not have systems in place. These devices have been systematically installed in other building sections as they have been renovated in lieu of bringing the entire building up to code at once.

C. MEMPHIS INTERNATIONAL AIRPORT TERMINAL BUILDING HISTORY, CONDITIONS, AND ALTERATIONS

The MEM passenger terminal building (known in SHPO documentation as the Memphis International Airport Terminal) was determined eligible for the NRHP by the SHPO in 2019. SHPO determined the property NRHP-eligible under National Register Criterion C at the local level of significance as an example of new Formalist architecture in Memphis; and under Criterion A in the area of Transportation for its association with popular commercial air travel opportunities in Memphis.

The original section of the terminal (the central section now known as Terminal B) was completed in 1963 and designed by Tennessee-based architect Roy Harrover (1928-2016) (then part of the firm Mann & Harrover) (see **Attachment A, Exhibit 1**). The design of the Terminal received immediate recognition and was awarded a National Design Award from *Progressive Architecture* magazine and the National Award of Merit from the American Institute of Architects in 1964. Harrover designed the terminal to be expanded and expansion did occur in the early 1970s with the addition of east and west terminals flanking the main terminal (Terminals A and C). These terminals were also designed by Harrover in the same style (see **Attachment A, Exhibit 2**). All three are considered contributing components of the NRHP-eligible historic property.

Character-defining features of the terminal design include the pioneering use of tall, concrete “martini glass”-shaped columns, which Harrover chose for their aesthetic qualities, strength, and economy. Harrover likened the arrangement of columns to an Egyptian temple.

Another important feature of the terminal’s architecture is the two-level nature of the design, allowing passengers to directly access the upper level, which communicated with the airplanes rather than needing to enter at ground level and carry their bags upstairs. A single elevated access roadway (now known as the upper interior roadway) was integrated into the design, running between the two outer sets of martini glass columns allowing passengers to disembark in a sheltered entry area. Harrover’s design inspired subsequent architects to emulate this approach in other airports.

The terminal retains a relatively high degree of historic integrity overall; however, incremental alterations to the building have been made since the early 1970s. The most notable of these alterations was the addition of an upper-outer roadway, which was constructed as part of a parking garage expansion in 1988. The original upper interior roadway remained in place, while the upper-outer roadway was constructed beyond and parallel to it.

D. ALTERNATIVES ANALYSIS

As the terminal is NRHP-eligible and proposed alterations to the building have been determined to constitute an adverse effect on the historic property under Section 106, MSCAA has developed several alternatives, described below, to evaluate whether adverse effects to the historic property can be avoided while achieving the goals of the Proposed Project. These alternatives are described below and are summarized in **Table 1**. The following analysis concludes that none of the alternatives considered would avoid adverse effects to the Terminal while achieving the Proposed Project’s goals.

Table 1
Alternative Evaluation and Results

Evaluation Criteria	Range of Alternatives					
	No Action	A Renovation in Current Building	B New Terminal in New Location	C Demolish and Build New on Current Site	D Terminal Addition to the North	E Renovation & Expansion _ Preferred Alternative
Adequate Building Size for all Improvements	No	No	Yes	Yes	Yes	Yes
Preservation/ Utilization of Existing Terminal	Yes No change would occur	Yes With interior modifications	No Structure would be demolished to reconstruct short-term parking garage	No Structure would be demolished	Yes However, substantial changes would occur; removal of key features and north wall; obstructing views of other features	Yes Modifications would be made; historic elements would remain or be upgraded and mirror historic aesthetics
Ease of Access and Passenger Flow	No Conditions would not change	No Escalators could be moved; other configuration limitations in the space would prevent improved passenger access and flow	Yes	Yes	Yes	Yes
Passenger Experience	No Conditions would not change	No Not all components could be implemented; terminal complex would not result in optimal passenger experience	Yes However, additional walking distances would not be optimal; would negatively affect pedestrian experience	Yes	Yes	Yes

Red shading indicates an unfavorable result.

Yellow indicates less than a favorable result.

Green shading indicates a favorable result.

RENOVATION IN CURRENT FOOTPRINT – ALTERNATIVE A

This alternative considers renovating the terminal within the existing structure and footprint. No building expansion would occur under this alternative (see **Figure 6**). To continue using the space,

construction would be phased, with the demolition and renovation occurring in sections. While utilizing the existing structure would be less expensive overall and may minimize alterations to the historic terminal building, the interior would still need to be modified and reconfigured to alleviate the passenger flow and congestion issues. It would also be necessary to upgrade components for TSA, building safety, and FAA guidelines. While the escalators and stairs could be moved from the center of the terminal space, the north/south depth of the building still would not allow for the space to be reconfigured to meet the other needed upgrades and modernization of facility activities, such as an expanded TSA check point area with modernized security equipment and self-check in kiosks. In addition, the overall footprint of the building also does not allow sufficient space to allow for the improvement of the design and flow for passengers, especially regarding queuing for TSA and airline ticket counters during peak travel times. Additional space would be needed to relocate critical elements that would be necessary in order to improve usability of the terminal. Therefore, Alternative A would not meet the project's purpose and need.

NEW TERMINAL IN NEW LOCATION – ALTERNATIVE B

Alternative B considers moving the terminal to a newly constructed structure and location on the northwest side of airport property (see **Figures 7 and 8**). Additional land areas are not available other than this section of the airport property, as all other airport property is accounted for and/or occupied by specific tenants such as FedEx, Fixed Based Operators (FBOs), and maintenance areas. Therefore, the only feasible location for a new terminal would be in the area currently occupied by the short-term vehicle parking garage, located north of the existing terminal building. This alternative would result in the demolition of the current terminal building in order to replace the loss of short-term parking due to the new terminal building, which has had portions upgraded and modernized as part of previous projects, including the new concourse opened in 2022. The new terminal location would be farther from the newly renovated concourse, requiring additional pedestrian walkways with longer walking distances to aircraft gates for pedestrians. Since the alternative would result in the loss of the historic terminal building and result in a less than optimal passenger experience, including ADA accessibility due to longer walking distances, this alternative was not selected as preferred.

DEMOLITION AND BUILD IN CURRENT FOOTPRINT – ALTERNATIVE C

Alternative C considers the demolition of the current passenger terminal complex and then rebuilding it within its current site with a modified footprint (see **Figure 9**). This alternative would result in the most operationally efficient space which would be close to the newly modernized concourse as well as provide the best passenger experience. Alternative C is beneficial from a cost perspective compared to other alternatives, however, would result in the loss of the historical terminal structure. Demolishing the building would cause the loss of the martini glass architecture and all of its features, and therefore, this alternative was not selected as preferred.

SUPPLEMENTAL BUILDING ON NORTH SIDE – ALTERNATIVE D

This alternative considers creating an addition to the north of the current terminal building to work in tandem with the historic building to accommodate the required elements to achieve project goals (see **Figure 10**). The new addition would be located where the parking garage is currently situated and

would require modification of the north facade of the building in order to connect to this addition, as there are other functions and buildings that existing along the other sides of the building. This would result in altering the historic building but could preserve the martini glass columns. The main expansion would be constructed north into the garage and would allow ticketing and baggage to be relocated to those areas, freeing up additional space in the main terminal for additional needed facilities. However, this alternative is operationally awkward and would also alter an active parking garage where parking capacity is needed. The Airport does not have readily available space where this parking could be replaced. The construction of a new building, a connection to the existing terminal building, and acquiring space and constructing replacement parking would be cost prohibitive. The location of the addition would block the view of the historically significant martini glass columns from the outside and some elements of the historic building would be altered. The escalators would still be moved in order to allow passenger flow through the center of the terminal space and any remaining glass would need to be replaced to comply with seismic standards. The north catwalk, along the wall that would be removed, would also be removed. The columns would remain but would not be visible from the outside. Due to the substantial alteration and impacts to the historic structure, the resulting obstructed view of the historic features of the building, as well as the loss of parking, this alternative was not selected as preferred.

RENOVATION, WITH FAÇADE EXPANSION, IN CURRENT FOOTPRINT – ALTERNATIVE E (PREFERRED ALTERNATIVE)

Alternative E includes the renovation of the existing building with an expansion of the building to the north (see **Figures 4, 5, and 11 and Attachment A, Exhibits 3 through 6**). The existing building would be preserved and modernized while maintaining the existing access to the recently completed concourse by passengers. The existing façade on the north side of the building would move farther north by approximately 24 feet, which would allow for an additional 60,000 square feet of usable interior space. Alternative E would still maintain the existing structure of the building while preserving the architecturally important features. Instead of blocking the view of the martini glass-shaped columns with a new building, this design would add glass along the north side of the new façade to allow for the continued visibility of the columns and other features from the exterior. The expansion would remain within the existing terminal's roofline/canopy footprint, minimizing impacts to the historic appearance and character-defining historic architectural components of the building. This would allow for enough space to reconfigure key elements of the building without the demolition of the current building or construction of a completely new structure.

Initially, this alternative included the creation of light wells that would be located in the expanded area in the northern section of the terminal in order to bring light to the lower level. However, based on coordination with the SHPO and the project's Consulting Parties, through the Section 106 process, these light wells were perceived as a substantive change to the character of the building. Therefore, MSCAA determined they could be eliminated to minimize the impact to the historic nature of the building.

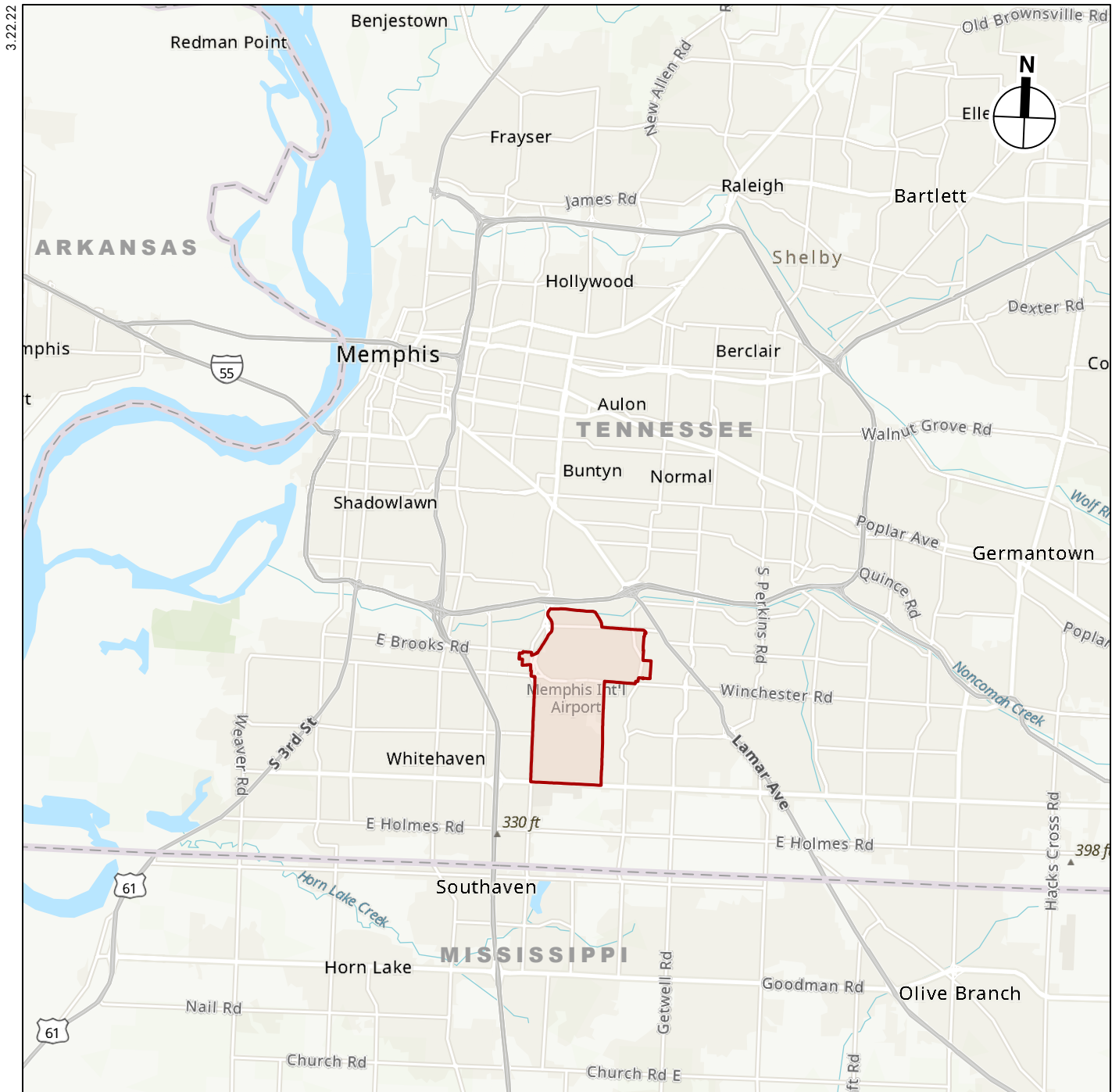
E. CONCLUSION

As described above, this Alternatives Analysis has been prepared in accordance with Section 106 of NHPA to evaluate alternatives that would avoid adverse effects on the NRHP-eligible Memphis

International Airport Terminal while achieving the goals of the Proposed Project. The analysis has concluded that none of the alternatives considered would meet the purpose and need of the Proposed Project while also avoiding adverse effects to the historic property under Section 106. Based on a balanced consideration of the need to meet the stated safety and operational needs of the airport and the preservation of the historic character of the NRHP-eligible Memphis International Airport Terminal, Alternative E has been identified as the most prudent and feasible alternative and therefore as the Preferred Alternative.

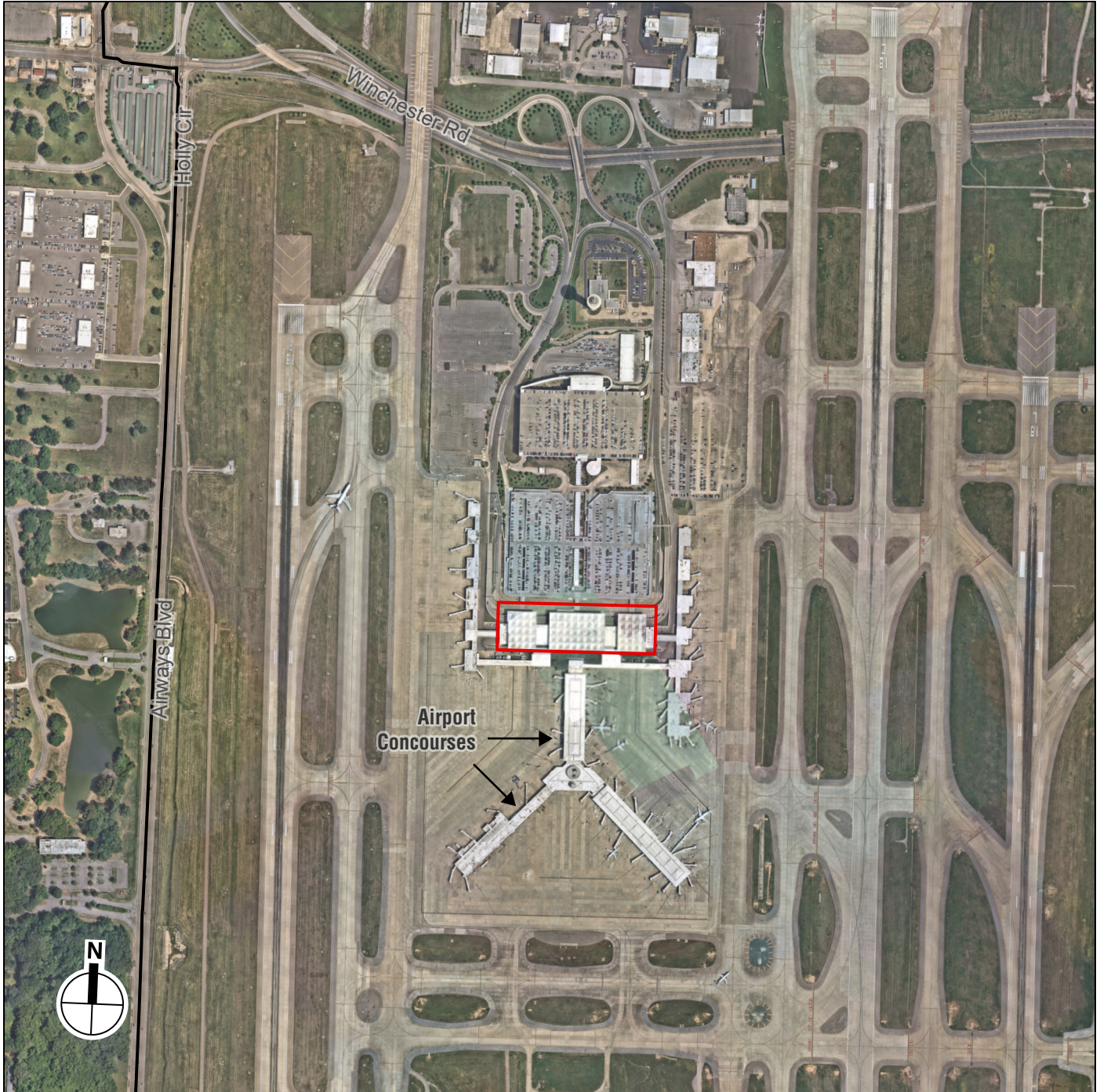
Measures to minimize adverse effects to the historic property have been incorporated into the design of the Preferred Alternative. For example, the design of the proposed alterations to the façade of the building allows for the continued visibility of the character-defining columns and other original design features from the exterior. Further, light wells, originally proposed as part of the design of Alternative E, were removed from the design based on input received from SHPO as part of the Section 106 consultation process to date.

Measures to minimize adverse effects to the historic property will be finalized through consultation with SHPO, as described in a Draft Memorandum of Agreement (MOA) for the project. Measures included in the MOA to further minimize adverse effects on the historic property include a provision for SHPO to have the opportunity to comment on the design of Project components at discrete stages of development. This process will ensure that preservation of the historic character of the building remains a key consideration as Project designs are refined. The Draft MOA also sets forth measures to mitigate adverse effects to the historic resource including documentation of the historic building through Historic American Building Survey documentation prior to the commencement of the Proposed Project and the development of a historic interpretive display to allow for public education regarding the history and design of the Terminal.



- Memphis International Airport*
- State Boundary*





0 1,000 FEET

- Study Area
- Memphis International Airport



Study Area
 Figure 2



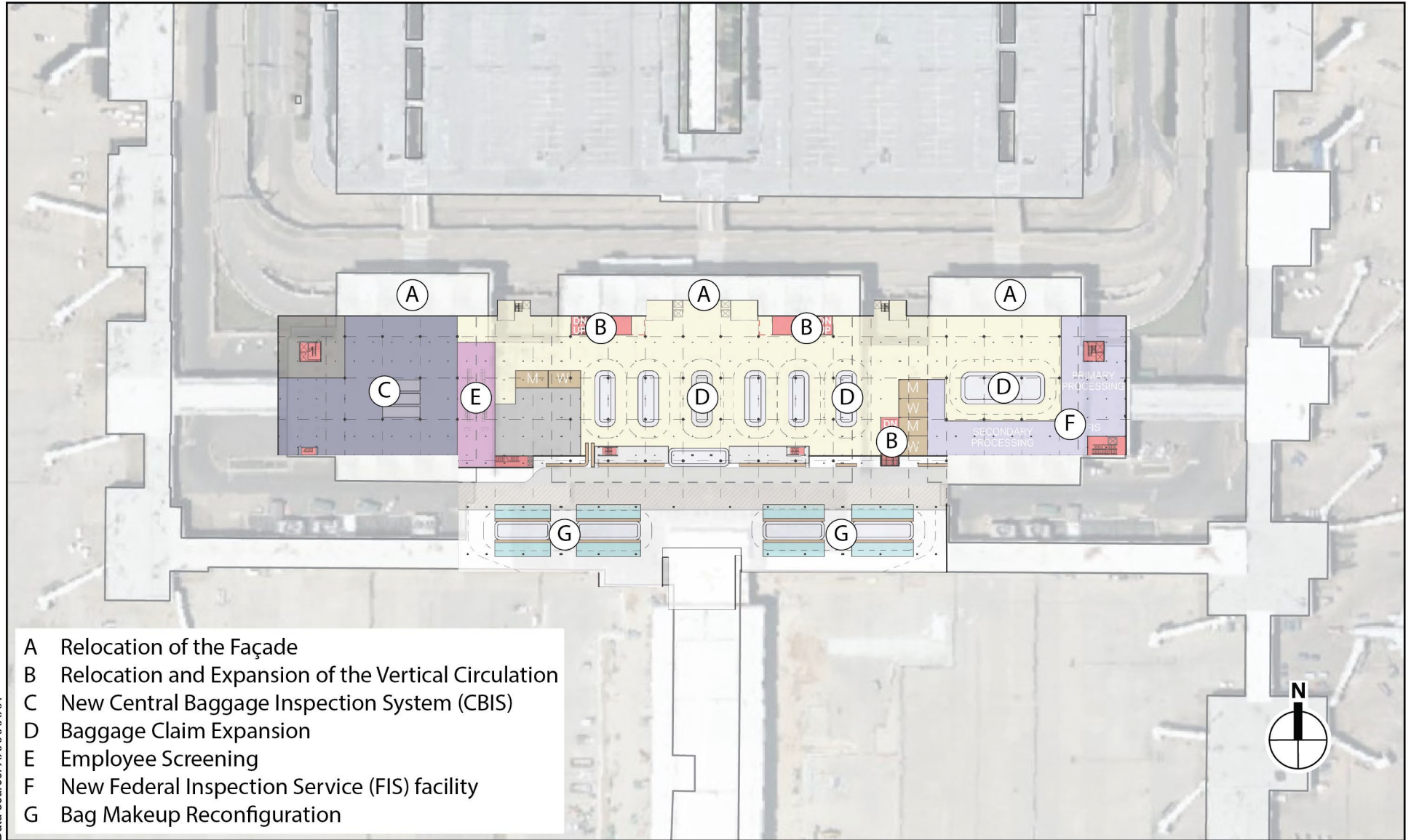
Data source: XXXXXXXX

- Building
- Airport Property Boundary

National Register-eligible Memphis International Airport Terminal

0 NTS
[Scale bar with four segments]









Existing Terminal Area
 Figure 3

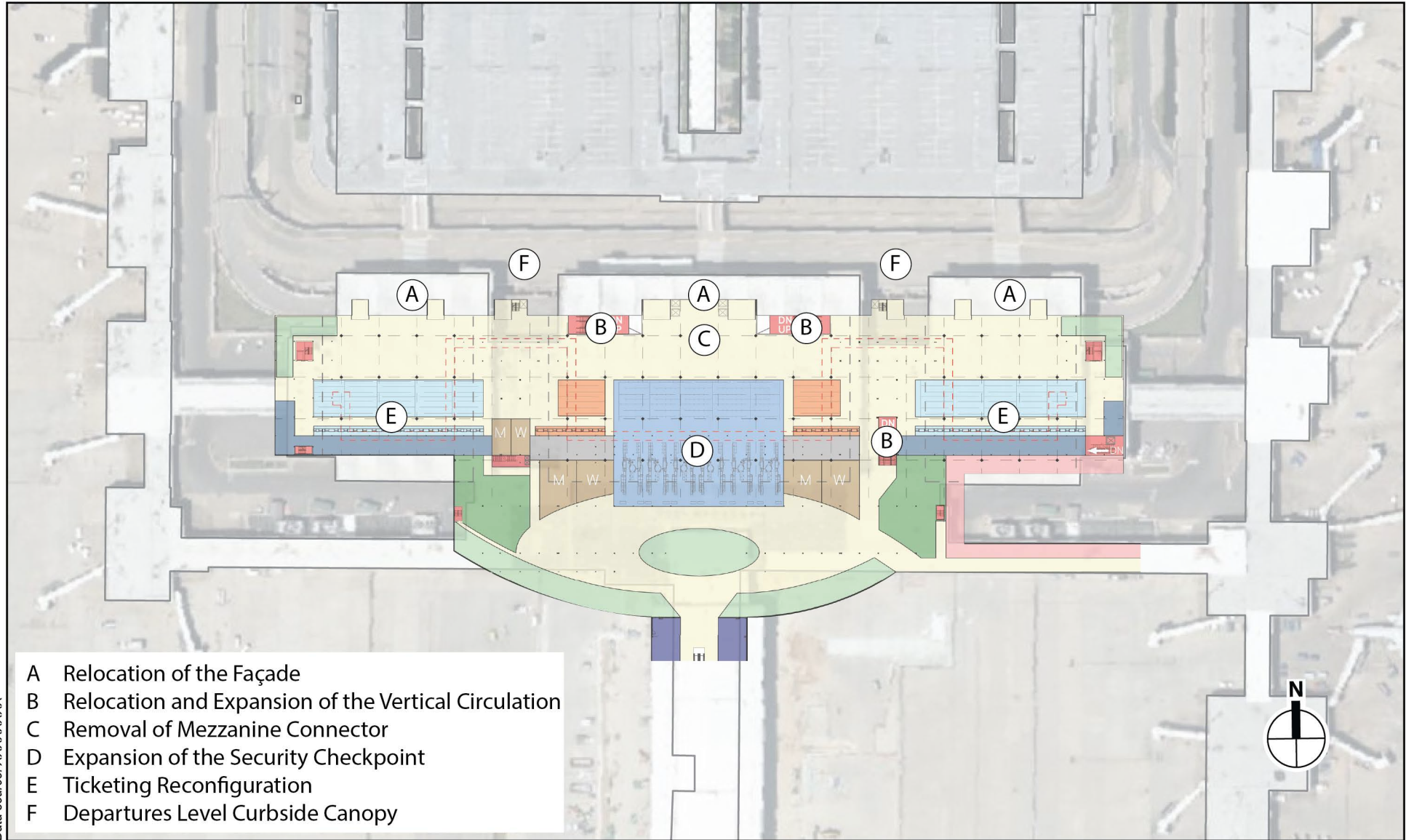


- A Relocation of the Façade
- B Relocation and Expansion of the Vertical Circulation
- C New Central Baggage Inspection System (CBIS)
- D Baggage Claim Expansion
- E Employee Screening
- F New Federal Inspection Service (FIS) facility
- G Bag Makeup Reconfiguration

Data source: XXXXXXXX



 Baggage Claim	 Baggage Screening	 Storage / Mechanical	 Cart Storage	0  NTS
 FIS	 Baggage Makeup	 Employee Screening		

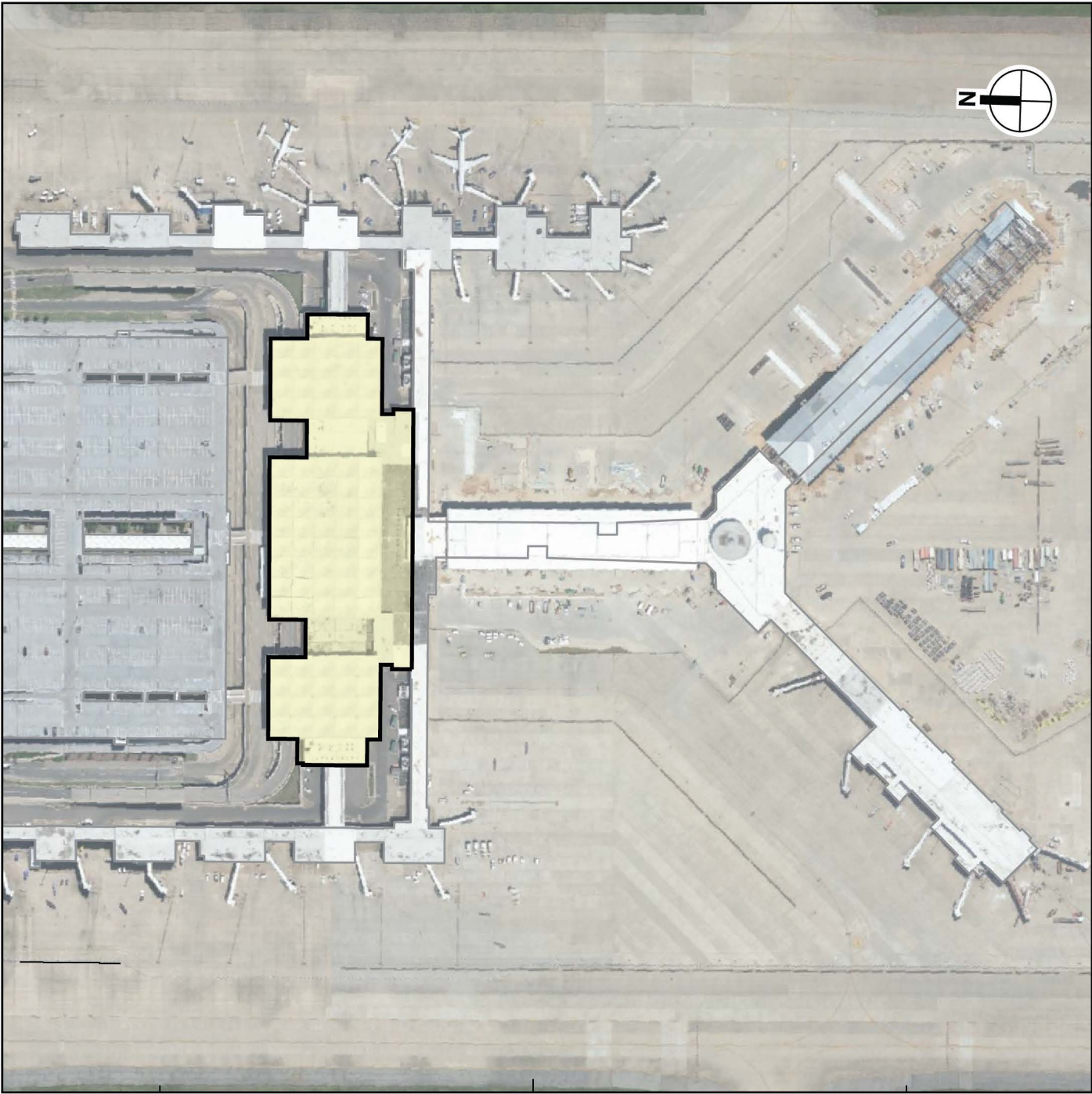


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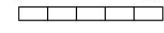
- A Relocation of the Façade
- B Relocation and Expansion of the Vertical Circulation
- C Removal of Mezzanine Connector
- D Expansion of the Security Checkpoint
- E Ticketing Reconfiguration
- F Departures Level Curbside Canopy

 Kiosk Area / Bag Drop	 Security	 Concessions	 Mechanical	 0 NTS
 Ticketing	 Support	 Airline Club	 Int'l Hold Room	 Restroom

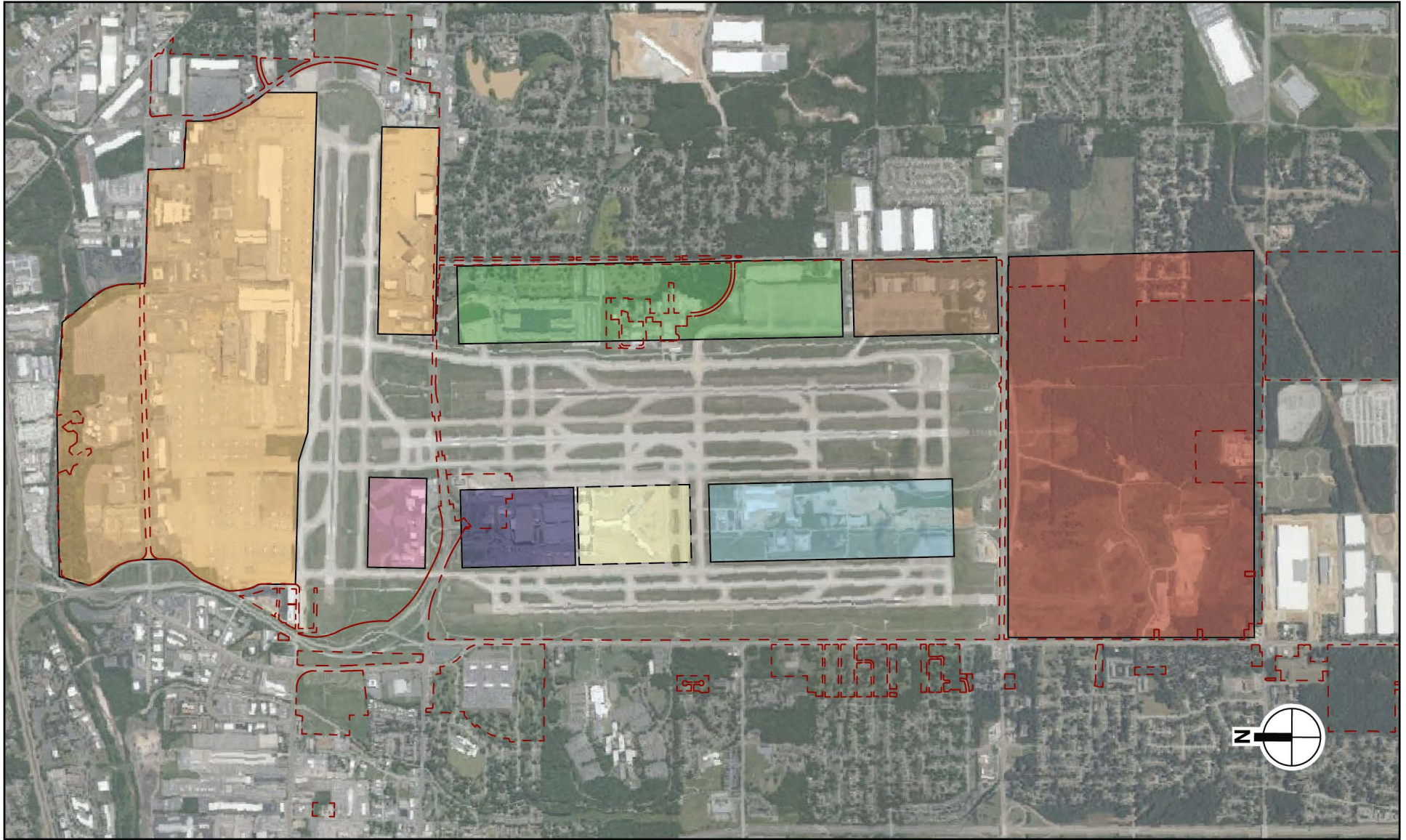
Preferred Terminal Plan - Upper Level
 Figure 5












 Project Area

0 NTS


Data source: XXXXXXXX



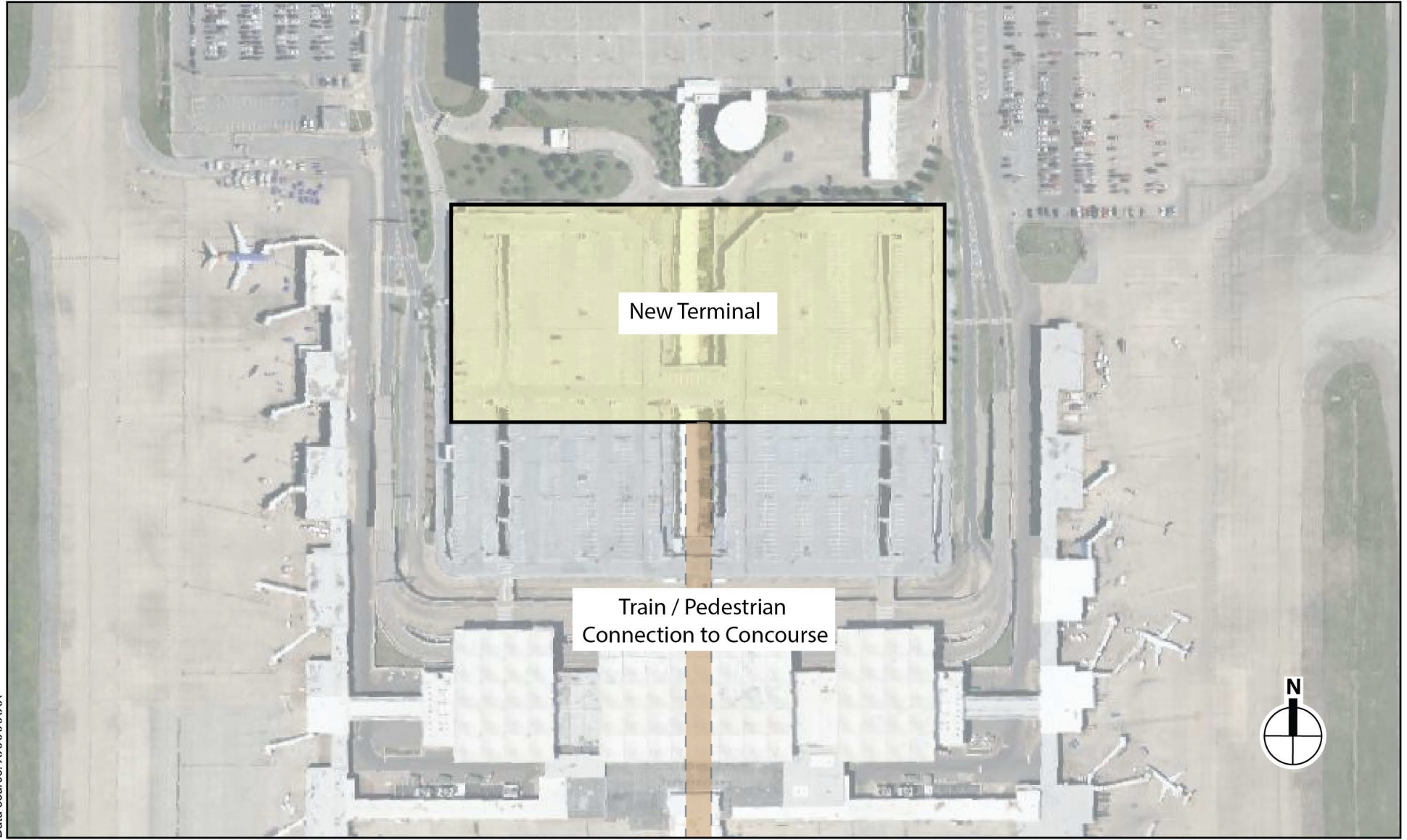
- | | | | |
|---|--|--|--|
|  FedEx |  Cargo & Support |  Existing Terminal / Concourse |  Approach Area |
|  Fixed-Based Operator |  Landside and ATC |  Air National Guard |  Central Deicing Facility, Cargo, and Maintenance |
|  Airport Property Boundary | | | |

**MEMPHIS INTERNATIONAL
AIRPORT TERMINAL
IMPROVEMENTS PROJECT**

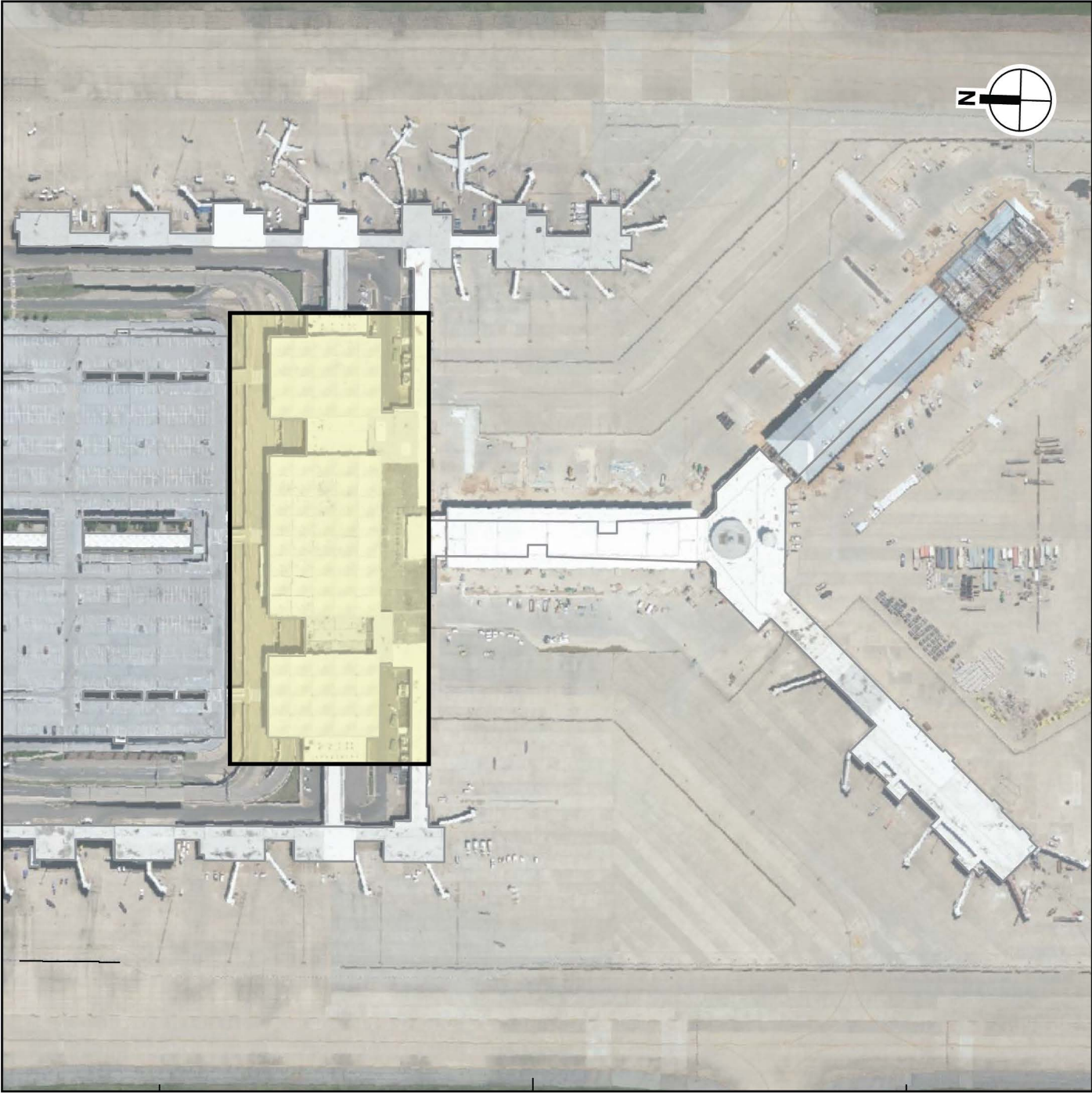
Options for New Terminal in New Location

Figure 7


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 Project Area

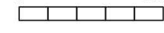


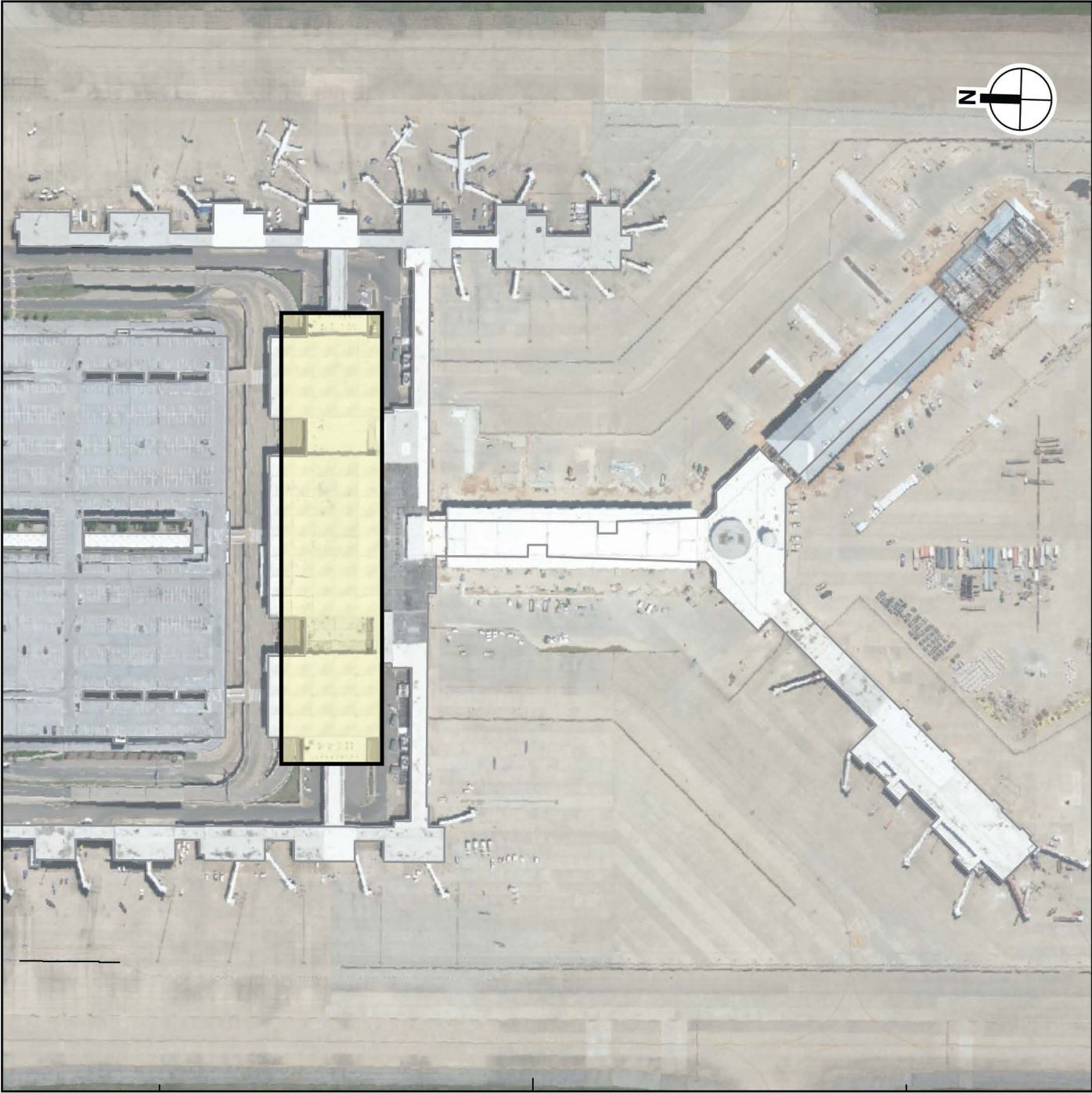
 Project Area

0 NTS





 Project Area

0 NTS




 Project Area

0  NTS

Renovation, with Façade Expansion, in Current Footprint
Alternative E

Attachment A



Credit: The AirportHistory.org Collection

AirportHistory.org

Airport, 1963 aerial

Exhibit 1



Source: Jacobsen Daniels

Memphis Terminal ca 1970

Exhibit 2



Memphis Terminal, Existing Conditions **Exhibit 3**



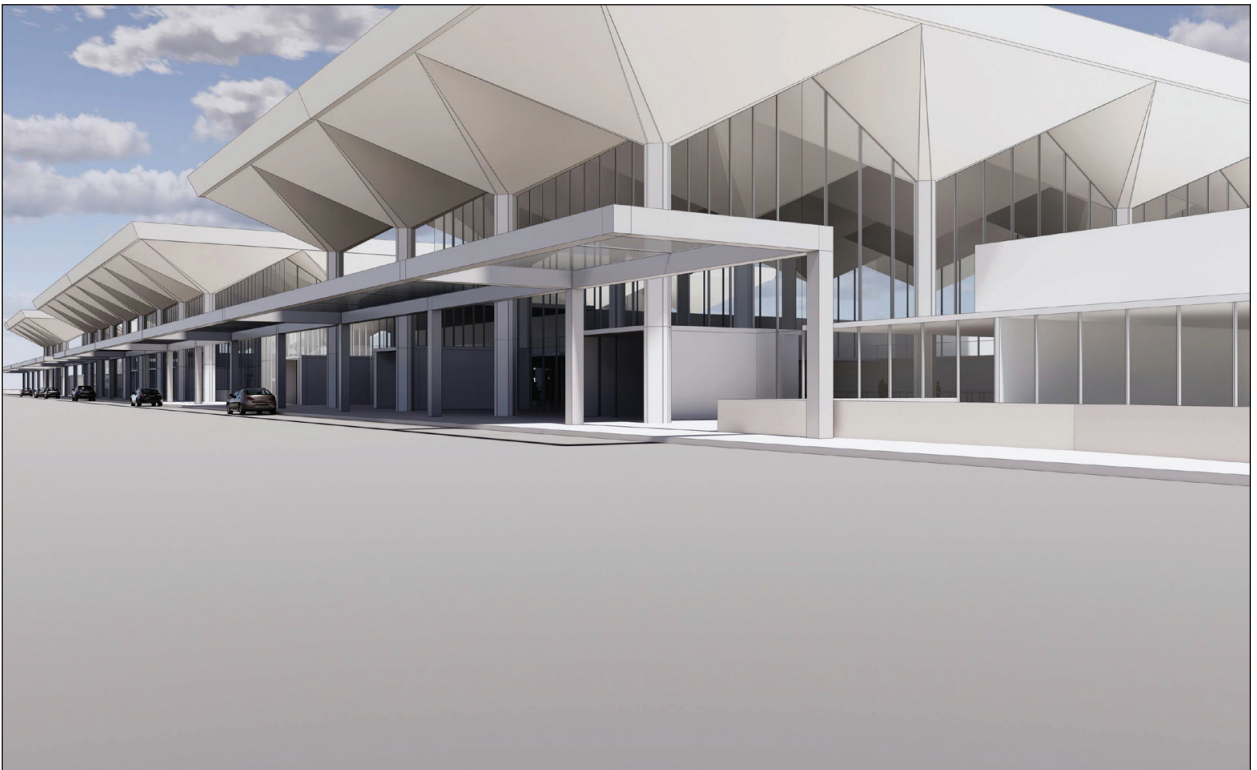
Memphis Terminal, Existing Conditions **Exhibit 4**

Source: Jacobsen Daniels



Proposed Memphis Terminal Rendering **Exhibit 5**

Source: Jacobsen Daniels



Proposed Memphis Terminal Rendering **Exhibit 6**

APPENDIX E
MEMORANDUM OF AGREEMENT

DRAFT MEMORANDUM OF AGREEMENT

**AMONG THE
FEDERAL AVIATION ADMINISTRATION
TENNESSEE STATE HISTORIC PRESERVATION OFFICER
AND THE
MEMPHIS SHELBY COUNTY AIRPORT AUTHORITY**

**REGARDING THE
MEMPHIS INTERNATIONAL AIRPORT TERMINAL MODERNIZATION
PROJECT
CITY OF MEMPHIS
SHELBY COUNTY, TENNESSEE**

DRAFT September 14, 2022

WHEREAS, the Memphis International Airport Terminal Modernization Project (“Proposed Project”) would modernize the terminal facilities at Memphis International Airport (MEM) in the City of Memphis, Shelby County, Tennessee, to ensure seismic resiliency, meet future demand, reduce environmental impacts through sustainability, improve life safety equipment, improve the customer experience, provide for flexibility as operations evolve, and improve access in compliance with the Americans with Disabilities Act (ADA). The project scope will extend the north face of the terminal, reconfigure vertical circulation, reconfigure the ticketing lobby, construct a Checked Baggage Inspection System (CBIS), expand the Security Screening Checkpoint (SSCP), and expand the baggage claim;

WHEREAS, as the Project sponsor and operator of MEM, the Memphis Shelby County Airport Authority (MSCAA) expects to submit a request to the Federal Aviation Administration (FAA) to review and approve a change to the terminal building footprint as a change to the Airport Layout Plan (ALP) in support of the Proposed Project; and

WHEREAS, the MSCAA is preparing an Environmental Assessment (EA) pursuant to the National Environmental Policy Act of 1969, as amended (Title 42 United States Code [U.S.C.] § 4321 *et seq.*) (NEPA) for approval by the FAA; and

WHEREAS, the Proposed Project is subject to Section 106 of the National Historic Preservation Act of 1966 (54 U.S.C. § 306108), as amended and re-codified, (NHPA) and its implementing regulations at Title 36 Code of Federal Regulations (CFR) § 800, as amended (hereinafter collectively referred to as Section 106); and

WHEREAS, the FAA substituted the NEPA process for compliance with Section 106 procedures, as established by 36 CFR § 800.8(c); and

WHEREAS, the FAA is the lead federal agency responsible for ensuring compliance with Section 106 on behalf of itself and other federal agencies pursuant to 36 CFR § 800.2(a)(2) and Executive Order 13807, *Establishing Discipline and Accountability in the Environmental Review Process for Infrastructure Projects*, commonly referred to as One Federal Decision, and the Memorandum of Understanding (MOU) implementing Executive Order 13807, which apply to infrastructure projects where the lead federal agency will prepare an EIS and multiple authorizations by federal agencies will be required to proceed with construction; and

WHEREAS, the FAA has determined that the proposed modification of the terminal building constitutes an undertaking under Section 106; and

WHEREAS, the FAA, in consultation with the Tennessee State Historic Preservation Officer (SHPO), defined the undertaking's area of potential effects (APE) as being limited to the Memphis International Airport Terminal (see **Figure 1**);

WHEREAS, the Memphis International Airport Terminal was determined eligible for the National Register of Historic Places (NRHP) by the Tennessee State Historic Preservation Office (SHPO) in 2019. Completed in 1963 and expanded in 1972, the property was designed by Tennessee-based architect, Roy Harrover. SHPO determined the property NRHP-eligible under National Register Criterion C at the local level of significance as an example of new Formalist architecture in Memphis; and under Criterion A in the area of Transportation for its association with popular commercial air travel opportunities in Memphis;

WHEREAS, in a letter dated May 5, 2022, SHPO commented that the Proposed Project would adversely affect the NRHP-eligible Memphis International Airport Terminal;

WHEREAS, the FAA determined that it was not necessary to consult with Native Nations as part of the Section 106 process for the Proposed Project;

WHEREAS, the FAA invited the following entities to serve as Consulting Parties: the Shelby County Historian; the Memphis Area Association of Governments; the Association of the Preservation of Tennessee Antiquities; the Memphis and Shelby County Historical Commission; the West Tennessee Historical Society; Memphis Heritage, Inc.; and the Memphis Landmarks Commission;

WHEREAS, the Shelby County Historian accepted the invitation to be a Consulting Party; and no response was received from the Memphis Area Association of Governments; the Association of the Preservation of Tennessee Antiquities; the Memphis and Shelby County Historical Commission; the West Tennessee Historical Society; Memphis Heritage, Inc.; and the Memphis Landmarks Commission;

WHEREAS, the FAA has notified the Advisory Council on Historic Preservation (ACHP) of the adverse effect determination and invited the ACHP to participate in the

consultation and to concur on this MOA, but the ACHP has declined to participate in a letter dated August 22, 2022;

WHEREAS, the FAA, in consultation with the SHPO, has considered alternatives to avoid or minimize potential adverse effects to the National Register-eligible Memphis International Airport Terminal, and has determined that the Proposed Project is the only feasible and prudent alternative; and

NOW, THEREFORE, the FAA, MSCAA, and the SHPO agree that the undertaking will be implemented in accordance with the following stipulations to resolve the adverse effect of the Proposed Project on the NRHP-eligible Memphis International Airport Terminal.

STIPULATIONS

FAA, with the assistance of MSCAA, will ensure the following stipulations are implemented:

I. RECORDATION

Prior to construction or any alteration to the project site, MSCAA, using the services of an Architectural Historian who meets the Secretary of the Interior's Professional Qualifications Standards (48 FR 44738-9) in the respective field, shall document the NRHP-eligible Memphis International Airport Terminal to Historic American Building Survey (HABS) Level II standards, including large-format exterior and interior photography of the Terminal, a historic narrative, and a physical description. A draft of the recordation shall be submitted to the SHPO and the Shelby County Historian for review and comment; entities will have 30 days for this review and these reviews will run concurrently. Reviews for recordation can run concurrently with other review timelines described herein. The Project Sponsor shall work with the Architectural Historian to review comments received. The Sponsor will then ensure that all documentation is completed and accepted by the SHPO prior to any new construction related to the Proposed Project on the site. The Project Sponsor shall provide one original archival copy of the recordation to the SHPO and up to two duplicate copies, with original photographs, shall be provided to the appropriate repositories as identified in consultation with the SHPO.

II. INTERPRETIVE DISPLAY

MSCAA, using the services of a person meeting the Secretary of the Interior's Professional Qualification Standards (48 FR 44738-9) in History, Archaeology, and/or Architectural History, shall design one (1) interpretive sign detailing the history and significance of the NRHP-eligible Memphis International Airport Terminal, to be installed in a publicly accessible location in or adjacent to the Memphis International Airport Terminal. The sign shall consist of a durable color panel which shall incorporate historic photographs and/or maps, as well as text regarding specific historic themes to be identified in consultation with the SHPO. Mock-ups illustrating the content, size, and text of the signage, as well as proposed sign locations, shall be submitted to the SHPO and the Shelby

County Historian for review and comment; entities will have 30 days for this review and the reviews will be concurrent. Reviews for display materials can run concurrently with other review timelines described herein. SHPO shall provide approval within 14 days of final versions prior to fabrication.

The sign shall be installed and verification of installation shall be provided to the SHPO no later than three (3) months following the completion of the Proposed Project.

III. DESIGN REVIEW

MSCAA, will submit design drawings and technical specifications at the approximately 35% and final design phase to the SHPO for review. SHPO shall respond within 30 calendar days or earlier to the design plans at each stage of completion.

IV. DOCUMENT REVIEW, GENERAL STIPULATIONS

A. Unless otherwise stated elsewhere in this MOA, SHPO and the Shelby County Historian will provide comments on whichever documents they review to either FAA or the MSCAA, as appropriate, and as set forth herein. For these reviews, the SHPO and the Shelby County Historian will have up to thirty (30) calendar days from the date of receipt to review and provide written comments to FAA or MSCAA. FAA and/or the MSCAA will ensure any written comments received within the timeframe are considered, as appropriate, into the documentation.

B. If SHPO or the Shelby County Historian does not submit written comments to FAA and/or MSCAA within thirty (30) calendar days of receipt of any document, it is understood the non-responding party has no comments on the submittal.

C. If SHPO or the Shelby County Historian objects to or recommends extensive revisions to these documents, which are stipulated in the MOA, FAA and/or the MSCAA will work expeditiously to respond to the recommendations and resolve disputes. If FAA and/or the MSCAA cannot resolve the disputes, and if after further consultation the dispute remains unresolved, the parties will adhere to the dispute resolution procedures detailed under Stipulation V.

D. The signatories acknowledge the timeframes set forth in this MOA will be the maximum allowed under normal circumstances. In exigent circumstances (e.g., concerns over construction suspensions or delays), all parties agree to expedite their respective document review.

V. DISPUTE RESOLUTION

A. In the event any party to this MOA objects in writing to any actions proposed in, or the manner in which the terms of this MOA are implemented, FAA will first consult with the other parties, as appropriate, within thirty (30) calendar days to resolve the objection. If

FAA determines that such objection cannot be resolved, FAA will proceed as set forth herein.

B. FAA will forward all documentation relevant to the dispute, including FAA's proposed resolution, to the ACHP within fifteen (15) calendar days of the determination and request that the ACHP provide FAA with its advice on the resolution of the objection within thirty (30) calendar days of receiving the documentation. Concurrently, FAA will also provide the signatories with the same documentation for review and comment following the steps described in Stipulation IV. FAA will prepare a written response to the objection, which will constitute FAA's decision regarding the objection, that takes into account any timely advice or comments regarding the dispute from the ACHP and signatories and provide them with a copy of the written response. FAA will then proceed according to its decision regarding the objection. Should disputes arise under exigent circumstances (e.g., concerns over construction suspension or delays) all parties agree to expedite their dispute resolution obligations within seven (7) calendar days. The ACHP will still have thirty (30) calendar days to respond.

C. If the ACHP does not provide its advice regarding the dispute within the thirty (30) calendar daytime period, FAA may make its own decision regarding the dispute and proceed according to that decision. FAA will document this decision in a written response to the objection that takes into account any timely comments regarding the dispute from the signatories and provide the ACHP and signatories with a copy of such written response.

D. The signatories remain responsible for carrying out all other actions subject to the terms of this MOA that are not the subject of the dispute.

VI. AMENDMENTS

Any signatory to this MOA may request that it be amended, whereupon that party will immediately consult with the other signatories within thirty (30) calendar days (or another time period agreed to by all signatories) to consider such an amendment. FAA will be responsible for developing the amendment and consulting with the signatories. The amendment will be effective on the date when all the signatories have signed it.

VII. TERMINATION

A. If any signatory to this MOA determines its terms will not or cannot be carried out, that party will immediately consult with the other signatories to attempt to accommodate the concern either through the Dispute Resolution or Amendment provisions per Stipulations V and VI. If within the respective timeframes defined in Stipulations V and VI (or another time period agreed to by all signatories) a resolution of the dispute or an

amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatories.

B. If the MOA is terminated, then, prior to work continuing on the Project, FAA must either, 1) execute a new agreement document (36 CFR § 800.6[c]) or 2) request, take into account, and respond to the comments of the ACHP under 36 CFR § 800.7. FAA will notify the signatories as to the course of action it will pursue.

VIII. MONITORING AND REPORTING

A. MSCAA will provide, upon request from any signatory, a status update on the implementation of this MOA and will notify the signatories and Consulting Party at the fulfillment of each mitigation measure under this MOA.

B. Each year following the execution of this MOA until it expires, is terminated, or until Project Completion (assuming all stipulations are met), MSCAA will provide all parties to this MOA a summary report detailing work undertaken pursuant to its terms. Such report shall include any scheduling changes proposed, any problems encountered, and any disputes and objections received in the FAA's efforts to carry out the terms of this MOA.

IX. DURATION

This MOA will expire when the MSCAA and SHPO certifies that all stipulations have been completed or in fifteen (15) years from the effective date, whichever comes first, unless the signatories agree in writing to an extension using the amendment stipulation (Stipulation VI) herein.

X. EXECUTION AND EFFECTIVE DATE

This MOA will go into effect on the date of the last signatory. Execution of this MOA by the signatories and implementation of its terms demonstrate that FAA has taken into account the effect of the Project on historic properties.

DRAFT MEMORANDUM OF AGREEMENT

**AMONG THE
FEDERAL AVIATION ADMINISTRATION
TENNESSEE STATE HISTORIC PRESERVATION OFFICER
AND THE
MEMPHIS SHELBY COUNTY AIRPORT AUTHORITY**

**REGARDING THE
MEMPHIS INTERNATIONAL AIRPORT TERMINAL MODERNIZATION
PROJECT
CITY OF MEMPHIS
SHELBY COUNTY, TENNESSEE**

SIGNATORY

FEDERAL AVIATION ADMINISTRATION

By: _____ Date: _____
Tommy Dupree
Manager, Memphis Airport District Office

DRAFT MEMORANDUM OF AGREEMENT

**AMONG THE
FEDERAL AVIATION ADMINISTRATION
TENNESSEE STATE HISTORIC PRESERVATION OFFICER
AND THE
MEMPHIS SHELBY COUNTY AIRPORT AUTHORITY**

**REGARDING THE
MEMPHIS INTERNATIONAL AIRPORT TERMINAL MODERNIZATION
PROJECT
CITY OF MEMPHIS
SHELBY COUNTY, TENNESSEE**

SIGNATORY

TENNESSEE STATE HISTORIC PRESERVATION OFFICER

By: _____ Date: _____
Mr. E. Patrick McIntyre, Jr.
State Historic Preservation Officer

DRAFT MEMORANDUM OF AGREEMENT

**AMONG THE
FEDERAL AVIATION ADMINISTRATION
TENNESSEE STATE HISTORIC PRESERVATION OFFICER
AND THE
MEMPHIS SHELBY COUNTY AIRPORT AUTHORITY**

**REGARDING THE
MEMPHIS INTERNATIONAL AIRPORT TERMINAL MODERNIZATION
PROJECT
CITY OF MEMPHIS
SHELBY COUNTY, TENNESSEE**

SIGNATORY

MEMPHIS SHELBY COUNTY AIRPORT AUTHORITY

By: _____ Date: _____
Scott A. Brockman
President and Chief Executive Officer