



May 18, 2017

**PUBLIC NOTICE
OPPORTUNITY FOR PUBLIC COMMENT
PFC APPLICATION #22 AMENDMENT**

In accordance with the United States Department of Transportation Federal Aviation Administration's 14 CFR Part 158 regulations governing Passenger Facility Charges (PFC), the Metropolitan Nashville Airport ("Authority") hereby provides public notice of the Authority's intention to file an application to amend Passenger Facility Charges ("PFCs") approved application 16-22-C-00-BNA

This Public Notice is effective May 19, 2017. Public Comments, if any, are required to be submitted to the Airport no later than June 18, 2017.

The Authority intends to amend application 16-22-C-00-BNA as described below. More detailed project information is available concerning the proposed PFC and the Airport Improvements by writing to the Finance Department, Nashville International Airport, One Terminal Drive, Ste 501, Nashville, TN 37214.

MNAA is requesting an amendment to the Financing Plan from Bond Capital and Financing to Pay-as-you-go for the following approved projects:

The new projects that will be reviewed are:

1. Taxiway Lima Rehab (2L to L2), including Lima/Alpha intersection
2. Reconstruct Taxiway Bravo/Lima intersection
3. Replace Stormwater Pipe (Phase 3)
4. Reconstruct Taxiway Lima (T4 to 2L)
5. Reconstruct Taxiway Alpha, including Taxiway C-1
6. Terminal Passenger Improvements Phase 2

In addition, MNAA is requesting amendments for the following:

- Reconstruct Taxiway Lima (T4 to 2L) - #4 above – additional PFC funding of \$1,365,663 due to less discretionary funds available,

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- Terminal Passenger Improvement - #6 above- addition of \$9M in PFC funding to include Phase 3 Replacement of Jet Bridges, and

(Information on each project, including a description and costs, is included at the bottom of the document.)

Application 16-22-C-00-BBA is approved at the \$4.50 level. The charge effective date was February 1, 2017, and the total estimated PFC revenue decreases to \$402,643,159. The charge expiration date is March 1, 2020. Active Applications #19, #20 and #21 continue with a collection charge of \$4.50 and Applications #11 and #14 continue with a collection charge level of \$3.00.

If you have any questions or comments regarding this notice, feel free to give me a call at (615) 275-2409 or email me at amy_davis@nashintl.com.

Yours truly,

A handwritten signature in blue ink that reads "Amy L. Davis".

Amy L. Davis
Controller

METROPOLITAN NASHVILLE AIRPORT AUTHORITY
AMENDED PFC APPLICATION 16-22-C-00-BNA PROJECTS

Taxiway Lima Rehab (2L to L2) including Lima/Alpha Intersection (no scope change; only funding change from PFC Bond & Financing to Pay-as-you-Go)

<u>Total Estimated Project Cost:</u>		\$13,700,000
<u>Total PFC Costs:</u>		\$ 6,850,000
<u>Funding Sources:</u>	PFC Pay-as-you-go	\$ 6,850,000
	Entitlement	\$ 1,819,337
	Discretionary	\$5,030,663
<u>Collection Level:</u>		\$4.50

Description: This project involves rehabilitation of Taxiway Lima between Runway 2L and Taxiway L2, including the Taxiway Alpha/Lima intersection. The total rehabilitation area is approximately 418,000 square feet. This project is necessary to comply with Federal guidelines and procedures for the maintenance of airport pavements per Advisory Circular 150/5380-&A. The AC provides the guidelines and procedures for the measurement of the pavement condition index (PCI). The PCI is a major indicator of how well the pavement is performing and a tool to keep track of the life cycle of the pavement. The PCI values in these areas are between 50 and 69, which is considered “poor” to “fair.”

Justification Last reconstructed in 2006, Taxiway Lima (2L to L2) has an average pavement condition index (PCI) value of 63, which is considered “fair.” This taxiway suffers from pavement distresses that include low- to medium-severity longitudinal and transverse cracking, block cracking, alligator cracking, patching, weathering, raveling, and rutting.

Deteriorating taxiway conditions can create FOD hazards, possibly resulting in loose pavement being ingested by jet engines or propelled by jet blast and prop wash from aircraft engines, as well as loss of

directional control by taxiing aircraft. Such phenomena may result in costly damage to aircraft, serious injury, or loss of life. Hence, reconstructing these pavements will enhance the safety of the airfield. Rehabilitation at approximately the 10-year mark is a recommended practice to ensure the pavement meets or exceeds its 20-year design life. Pavements that are not properly rehabilitated will deteriorate rapidly in the next 10 years.

The alternative to rehabilitating these pavements would be to allow them to deteriorate rapidly, and then be to decommission the subject sections of taxiway.

The taxiways in question currently lack paved shoulders. As per FAA AC 150/5300-13A, "Airport Design," Paragraph 417, "Taxiway Shoulders," taxiways supporting operation by ADG IV or higher aircraft must have paved shoulders; hence, enabling this section of taxiway to meet FAA standards further justifies the need for this project.

Justification: Estimate Start Date: April 2017

Estimated Completion Date: August 2017

Reconstruct Taxiway Bravo/Lima intersection (no scope change; only funding change from PFC Bond & Financing to Pay-as-you-Go)

Total Estimated Project Cost: \$4,900,000

Total PFC Costs: \$4,900,000

Funding Sources: PFC Pay-as-you-go \$4,900,000

Back-up Financing Plan: N/A; Discretionary AIP funds will not be used to fund this project

Collection Level: \$4.50

Description: This project involves full depth reconstruction of the Taxiway Bravo and Taxiway Lima intersection, starting at the Runway 13-31 hold bar and proceeding north to taxiway B-3. Additionally, 30 ft. asphalt shoulders will be added to both taxiways within the project limits. The total reconstruction area is approximately 110,000 square feet. This project is necessary to comply with Federal guidelines and procedures for the maintenance of airport pavements per Advisory Circular 150/5380-7A. The AC provides the guidelines and procedures for the measurement of the pavement condition index (PCI). The PCI is a major indicator of how well the pavement is performing and a tool to keep track of the life cycle of the pavement. The PCI values in these areas are well below 55 and are considered “poor.”

Justification: Last reconstructed in 1996, the Taxiway Bravo/Lima intersection has an average pavement condition index (PCI) value of 46, which is considered “poor.” This taxiway suffers from pavement distresses that include moderate to severe alligator cracking and patching, longitudinal and transverse cracking, block cracking, bleeding, weathering, and raveling.

Deteriorating taxiway conditions can create FOD hazards, possibly resulting in loose pavement being ingested by jet engines or propelled by jet blast and prop wash from aircraft engines, as well as loss of directional control by taxiing aircraft. Such phenomena may result in costly damage to aircraft, serious injury, or loss of life. Hence, reconstructing these pavements will enhance the safety of the airfield.

The alternative to reconstructing these pavements would be to decommission the subject sections of taxiway, which would result in the loss of bi-directional and redundant taxiing capabilities for the Runway 2L-20R and Runway 13-31 complexes, thus reducing airfield capacity.

The ADG V aircraft taxi route was established to ensure that larger aircraft operate in an environment in which taxiway geometry is adequate to accommodate the movement of such aircraft. As the Taxiway Bravo/Taxiway Lima intersection is one of the segments on this route, loss of this intersection would likely result in the need to expand taxiway fillets to accommodate these operations on an altered ADG V aircraft taxi route.

The taxiways in question currently lack paved shoulders. As per FAA AC 150/5300-13A, “Airport Design,” Paragraph 417, “Taxiway Shoulders,” taxiways supporting operation by ADG IV or higher aircraft must have paved shoulders; hence, enabling this section of taxiway to meet FAA standards further justifies the need for this project.

Estimate Start Date: April 2017

Estimated Completion Date: August 2017

Terminal Passenger Improvements (Phase 2 & Phase 3) (Scope change to include \$9M of Phase 3 Replacement of Jet Bridges; also, funding change on original scope from PFC Bond & Financing to Pay-as-you-Go)

Total Estimated Project Cost: \$39,350,000

Total PFC Costs: \$38,160,000

Funding Sources:

PFC-Pay-as-you-go \$38,160,000

Other Bonds \$ 1,190,000

Collection Level: \$3.00

Description: *As part of the new 2015 airline agreement, MNAA committed to the airlines to spend \$150 million on a terminal rehabilitation and modernization program over the next five years. These improvements will be made in phases. The first project, Terminal Passenger Improvements, Phase I, is in PFC Application 21. The second phase is planned for in PFC Application 22, while subsequent phases will be included in PFC Application 23.*

Phase 2 Terminal Passenger Improvement elements included in PFC Application 22 consist of the following items:

- **Replace Passenger Loading Bridges**– All of the passenger loading bridges are in excess of 20 years old, with many original to the terminal building when it opened in 1987. All of these bridges are in need of replacement due to difficulty of maintenance, which has resulted from a lack of available spare parts; changes in code requirements; and inability to comply with Americans with Disabilities Act (ADA) requirements. This project will include the replacement of 37 bridges on concourses A, B, and C, as well as an upgrade of the 400 Hz power system. The

gates on which passenger boarding bridges are being replaced or added are depicted in the attached exhibit, "Passenger Boarding Bridge Gates." It should be noted that the centralized 400 Hz power system will be used exclusively for the jet bridges.

- The passenger terminal at BNA was constructed mainly to accommodate the needs of American Airlines' hub operations in Nashville in the late 1980's and early 1990's. The gate envelopes and jet bridges were configured to accommodate American's MD-80 and Boeing 727 aircraft, both of which have wingspans of approximately 108 feet; hence, these gates were specifically configured to accommodate these aircraft, rather than generic Airplane Design Group (ADG) III aircraft dimensions. The fleet mix since that time has migrated to the Airbus A-320 series and Boeing 737 aircraft. The vast majority of air carrier aircraft operating at BNA are Boeing 737 700 and 800 series aircraft, equipped with winglets. These aircraft have wingspans of 117.5 feet, just short of the 118-foot maximum for ADG III aircraft. As most gates were originally configured for aircraft with shorter wingspans, most of the gate envelopes, including jet bridge configurations, at BNA must be reconfigured to fully-utilize all gates at BNA concurrently; not doing so would require the construction of additional gates to accommodate the increase in air carrier aircraft operations.

Due to the re-configuration of lead-in lines and aircraft positioning on the terminal apron, many existing jet bridge pedestal foundations are required to be removed and new pedestal foundations to be installed. Removing existing jet bridge pedestal foundations requires steel anchor bolts to be cut, concrete to be chipped and excavated, and new concrete to be poured. There are new bridges being added to gates C-8, C-15, C-17, and A-6 which were not previously equipped with jet bridges. These bridges require new pedestal foundations to be installed. There are also new static bridge sections being installed between the terminal building and rotunda associated with some of the new bridges; this is necessary in order to optimize aircraft parking positions and maximize gate usage. These static bridge sections also require concrete foundation work for new pedestal positions; some static bridge sections will require multiple pedestals.

The included cost estimates for boarding bridges, pre-conditioned air, and 400 Hz power were derived from recent experience at similar airports. Costs were then escalated to reflect experience from other BNA construction projects, in which construction costs were higher than expected due to Nashville's robust economy and the plethora of construction projects in the Nashville area competing for resources.

As the Jet Bridge Program is phased, two bridges are taken out of service at a time and the airline(s) associated with those bridges are being relocated while the new bridges are being

installed, thus ensuring the continuation of airline operations to minimize disruption to passenger service. Associated with the relocation of an Airline to a different holdroom is the relocation of all necessary gate equipment, including podiums, backdrops, monitors, gate readers and all electrical and IT associated equipment. This equipment is tied-in with the jet bridge operation (phone lines, communication lines, fiber).

- **Acquire and Install Two Additional Elevators in the Terminal – This project will acquire and install two additional elevators in the terminal lobby. When the terminal opened in 1987 it was outfitted with an appropriate number elevators to accommodate the needs of, what was then, largely an airline transfer hub. Under such a scenario the majority of passengers moved between flights, mostly on the same level, with a limited number moving between floors. In anticipation of future growth, provisions were made to enable the installation of two additional elevators, when needed, without major structural modifications. The elevator locations are depicted in the exhibit, “Terminal Lobby – Elevator Additions.”**

The transition of Nashville International Airport from an airline transfer hub to an origination & destination (O&D) airport, in which the majority of passengers would now need to transition between the ground transportation, bag claim, and ticketing levels of the building, compounded by the aging of the population, has made it necessary to increase the number of elevators. Thus, two additional elevators will be installed in the main terminal adjacent to existing elevators within voids designed for this purpose.

- **Flight Information Display System and Public Address/ Visual Paging Replacement – The two large format flight information display systems (FIDS) in the ticketing lobby and the FIDS systems throughout the terminal will have reached their useful life of 10 years, as is indicated in the Airport Improvement Program (AIP) Handbook. Due to maintenance issues, including a lack of available spare parts, these units will require replacement to ensure continued operation. The new units will be equipped with additional features, such as visual paging, to support operational needs. Additionally, a visual paging system will be installed in the gate hold rooms. The FIDS will be owned by the MNAA and, therefore, will not be exclusive-use.**

Project Objective: The objective of this project is to preserve capacity by maintaining the viability, safety, and security of the terminal building.

- **Replace Passenger Loading Bridges – Acquiring new passenger loading bridges at Nashville International Airport will replace older style bridges that are difficult to maintain, not up to code, and have difficulty complying with the Americans with Disabilities Act. Doing so will preserve the capacity of the terminal building, since the loss of older loading bridges due these issues would require airlines to revert to air stair boarding, which would increase the turn-around time for each flight, decreasing the number of flights each gate could accommodate, thus reducing capacity.**

The new jet bridges will be owned by the MNAA rather than the airlines, allowing gates to be used on a preferential basis as per the new airline agreement that became effective in October of 2015. This paradigm will enable gates to be used by other air carriers when not in use by the airline named in the preferential use agreement. By affording new entrant carriers the ability to use gates during off-peak periods, the capacity of the terminal will be enhanced.

- **Acquire and Install Two Additional Elevators in the Terminal –** Enplanements are projected to double within the planning period. As the population ages, this will include a growing number of senior citizens and people with disabilities. While escalators may be accessible for some of these passengers and visitors, this mode of transportation may put others in danger and be inaccessible by still others. By providing those with physical challenges access to adequate facilities, the addition of two elevators will preserve the capacity of the terminal building.
- **Flight Information Display System and Public Address/Visual Paging Replacement –** These systems will be better able to convey critical information to the public than the present system. With increasing passenger volumes at BNA, by conveying information in a more expeditious and robust fashion, this project will preserve the capacity of the terminal building.

Estimate Start Date: January 2016

Estimated Completion Date: May 2018

Replace Stormwater Pipe (Phase 3) (no scope change; only funding change from PFC Bond & Financing to Pay-as-you-Go)

Total Estimated Project Cost: \$1,000,000

Total PFC Costs: \$1,000,000

Funding Sources: PFC Pay-as-you-go \$1,000,000

Collection Level: \$3.00

Back-up Financing Plan: Not applicable; discretionary AIP funds are not being sought

Description: This project will include various items to better facilitate the collection, conveyance, treatment, and release of stormwater at Nashville International Airport in order to ensure that all

stormwater leaving Airport property meets the standards in BNA's National Pollution Discharge Elimination System (NPDES) permit. This includes replacement or repair of various stormwater pipes what convey stormwater from the terminal area to the treatment plant, and therefore, may contain glycol following deicing operations.

Justification: Despite its status as a Southern city, Nashville experiences freezing conditions during the winter months, as well as freezing rain and snow. In order for aerodynamic surfaces to maintain a laminar flow of air in order to generate sufficient lift, these surfaces must be kept free of these contaminants. As non-corrosive agents must be used, deicing and defrosting are accomplished by applying Type I or Type IV deicing fluid, which typically contain either ethylene or propylene glycol. Application of deicing fluid creates environmental hazards due to its high biochemical oxygen demand (BOD) and toxicity to wildlife; therefore, this fluid must be disposed of either through conveyance to a municipally-owned sewage treatment plant or treated on site. In order to mitigate the impacts of deicing fluid, a stormwater treatment plant was constructed in the mid-1990's in which all stormwater from the terminal area is conveyed to the treatment plant. Consequently, all deicing activities must take place in the terminal area to ensure that all glycol is captured and treated prior to its release into the environment. This ensures that stormwater leaving the Airport meets guidelines set forth by the Environmental Protection Agency (EPA) and the Tennessee Department of Environment and Conservation (TDEC), to whom the EPA has delegated this authority. Therefore, this project is justified due to the fact that, without the means to successfully treat stormwater to remove glycol, deicing activities, and therefore, aircraft operations, would need to cease during periods of ice, frost, or snow accumulations.

Estimate Start Date: May 2016

Estimated Completion Date: August 2017

Reconstruct Taxiway Lima (T4 to 2L) (no scope change; funding change from PFC Bond & Financing to Pay-as-you-Go, along with additional PFC funds due to less Discretionary)

Total Estimated Project Cost: \$9,700,000

Total PFC Costs: \$5,730,663

Funding Sources: PFC Pay-as-you-go \$5,730,663

Discretionary \$3,969,337

Collection Level: \$4.50

Description: This project involves rehabilitation of Taxiway Lima between Runway 2L and Taxiway T4. The total rehabilitation area is approximately 299,000 square feet. This project is necessary to comply with Federal guidelines and procedures for the maintenance of airport pavements per Advisory Circular 150/5380-&A. The AC provides the guidelines and procedures for the measurement of the pavement condition index (PCI). The PCI is a major indicator of how well the pavement is performing and a tool to keep track of the life cycle of the pavement. The PCI values in this area is 60, which is “fair.”

Justification: Last reconstructed in 2005 with portions untouched since 1986, Taxiway Lima (T3 to 2L) has an average pavement condition index (PCI) value of 60, which is considered “fair.” This taxiway suffers from pavement distresses that include low- to medium-severity longitudinal and transverse cracking, block cracking, alligator cracking, patching, weathering, raveling, and rutting.

Deteriorating taxiway conditions can create FOD hazards, possibly resulting in loose pavement being ingested by jet engines or propelled by jet blast and prop wash from aircraft engines, as well as loss of directional control by taxiing aircraft. Such phenomena may result in costly damage to aircraft, serious injury, or loss of life. Hence, reconstructing these pavements will enhance the safety of the airfield. Rehabilitation at approximately the 10-year mark is a recommended practice to ensure the pavement meets or exceeds its 20-year design life. Pavements that are not properly rehabilitated will deteriorate rapidly in the next 10 years.

The alternative to rehabilitating these pavements would be to allow them to deteriorate rapidly, and then be to decommission the subject sections of taxiway.

The taxiways in question currently lack paved shoulders. As per FAA AC 150/5300-13A, “Airport Design,” Paragraph 417, “Taxiway Shoulders,” taxiways supporting operation by ADG IV or higher aircraft must have paved shoulders; hence, enabling this section of taxiway to meet FAA standards further justifies the need for this project.

Estimate Start Date: April 2018

Estimated Completion Date: August 2018

Reconstruct Taxiway Alpha South, including Taxiway C-1 (no scope change; only funding change from PFC Bond & Financing to Pay-as-you-Go)

<u>Total Estimated Project Cost:</u>		\$13,100,000
<u>Total PFC Costs:</u>		\$13,100,000
<u>Funding Sources:</u>	PFC Pay-as-you-go	\$13,100,000
<u>Collection Level:</u>		\$4.50

Description: This project involves full depth reconstruction of Taxiway Alpha South between taxiways R-3 and A-1. Taxiway C-1, which provides access to the south cargo apron, will also be included in the reconstruction. Additionally, 30-foot wide asphalt shoulders will be added to Taxiway Alpha, R3, A1, and C1. The total area to be reconstructed is approximately 445,000 square feet. The PCI value in these areas ranges from 69 to as low as 43, which is considered “poor.”

Justification: Runway 2L-20R is the oldest runway in use at Nashville International Airport. Portions of the section Taxiway Alpha to be reconstructed have not experienced a full-depth reconstruction since 1977. Approximately one third of Taxiway Alpha had a mill and overlay in 1996. All taxiway segments suffer from various distresses, including longitudinal and transverse cracking, alligator cracking, weathering, depressions, rutting, and raveling. Pavement Condition Indices range from as low as 43 in some areas, which is considered poor, to a high of 69, which is considered fair.

The poor condition of these taxiways can create FOD hazards, possibly resulting in loose pavement being ingested by jet engines or propelled by jet blast and prop wash from aircraft engines, as well as loss of directional control by taxiing aircraft. Such phenomena may result in costly damage to aircraft, serious injury, or loss of life; thus, reconstructing these pavements will restore the safety of the airfield.

In addition to the above, this project will also include addition of 30-foot shoulders in order to meet the requirements of FAA AC 150/5300-13A, bringing these shoulders up to standards as necessary. This will enhance safety by preventing potential FOD ingestion by jet engines that overhang the edge of the taxiway pavement.

The alternative to reconstructing these pavements would be to decommission the subject sections of taxiway, which would require air cargo aircraft to taxi via Taxiway Bravo, requiring these aircraft to cross an active runway, as well as cause conflicts and congestion with air carrier aircraft, resulting in delays. Therefore, this project is also needed to prevent anticipated congestion that would result from the loss of this taxiway.

Estimate Start Date: April 2018

Estimated Completion Date: August 2018
