

FIRST UNIVERSAL AMENDMENT TO THE
2015 METROPOLITAN WASHINGTON AIRPORTS AUTHORITY
AIRPORT USE AGREEMENT AND PREMISES LEASE,
AS IT APPLIES TO WASHINGTON DULLES INTERNATIONAL AIRPORT

This First Universal Amendment to the 2015 Metropolitan Washington Airports Authority Airport Use Agreement and Premises Lease (First Amendment) is entered into by the Metropolitan Washington Airports Authority (Authority) and the undersigned airline (Airline).

RECITALS

- A. The Authority and the Airline entered into the 2015 Airport Use Agreement and Premises Lease (2015 Agreement) effective January 1, 2015.
- B. The 2015 Agreement addresses the relationship between the Authority and numerous airlines operating at the Authority's two airports, Ronald Reagan Washington National Airport (National) and Washington Dulles International Airport (Dulles).
- C. For airlines operating at National, the 2015 Agreement expires on December 31, 2024, and, for airlines operating at Dulles, it expires on December 31, 2017.
- D. The Authority and the Airline, which operates at Dulles, now wish to amend the 2015 Agreement as it relates to the operations of the Airline and other airlines at Dulles by extending the 2015 Agreement's expiration date to and including December 31, 2024.
- E. The Authority and the Airline also wish to make other amendments to the 2015 Agreement to make other provisions of the 2015 Agreement consistent with this extended expiration date.
- F. The Authority and the Airline intend that this First Amendment and the amendments it makes to the 2015 Agreement shall apply only to the Airline and other airlines operating at Dulles.

NOW, THEREFORE, in consideration of the mutual promises contained herein and other good and valuable consideration, the Authority and the Airline hereby agree to amend the 2015 Agreement, as it applies to the operations of the Airline and other airlines at Dulles, as follows (capitalized terms in the following paragraphs have the meaning given them in the 2015 Agreement):

1. Paragraph 2.02.2, within Section 2.02 ("Expiration Dates"), is deleted in its entirety and is replaced with the following:

2.01.2 With respect to Dulles, this Agreement shall expire on December 31, 2024, unless sooner terminated as provided in Article 10, Article 13, or Article 14 of this Agreement.

2. The definition of "Debt Service Coverage," within Section 3.01 ("Definitions"), is deleted in its entirety and is replaced with the following:

Debt Service Coverage shall mean at both Airports, for Fiscal Years 2015 through 2017, an amount equal to thirty-five percent (35%) of the portion of Debt Service attributable to Senior Bonds and Subordinated Bonds which is not funded with PFC revenue or federal grant assistance; at National, for Fiscal Years 2018 through 2023, an amount equal to thirty percent (30%) of the portion of Debt Service attributable to Senior Bonds and Subordinated Bonds which is not funded with PFC revenue or federal grant assistance; at National, for Fiscal Year 2024, an amount equal to twenty-five percent (25%) of the portion of Debt Service attributable to Senior Bonds and Subordinated Bonds which is not funded with PFC revenue or federal grant assistance; at Dulles, for Fiscal Years 2018 through 2023, an amount equal to thirty percent (30%) of the portion of Debt Service attributable to Senior Bonds and Subordinated Bonds which is not funded with PFC revenue or federal grant assistance; and, at Dulles, for Fiscal Year 2024, an amount equal to twenty-five percent (25%) of the portion of Debt Service attributable to Senior Bonds and Subordinated Bonds which is not funded with PFC revenue or federal grant assistance; plus, in each of the Fiscal Years 2015 through 2024, such other amounts as may be established by any financing agreement or arrangement with respect to Other Indebtedness.

3. The initial paragraph of Section 17.02 ("Periodic Reallocation of Premises") is deleted in its entirety and is replaced with the following:

17.02 Periodic Reallocation of Premises. In addition to any other rights of the Authority, the Authority may reallocate Airline Premises and Equipment among the Signatory Airlines (a) at either or both Airports in the event of (i) Congressional authorization of additional slots or slot exemptions at National, or (ii) Congressional modification of the existing Perimeter Rule at National or authorization of additional beyond-perimeter flights at National; and (b) at an Airport in the event of the merger of one or more Signatory Airlines operating at that Airport. The Authority may also reallocate Airline Premises and Equipment among the Signatory Airlines at National once every twenty-four (24) months during the Period of the Agreement applicable to National, beginning on January 1, 2017, and at Dulles once during calendar year 2017 and, thereafter, once every twenty-four (24) months during the Period of the Agreement applicable to Dulles, beginning on January 1, 2020, to address facility imbalances and improve operations at the Airport. Reallocations by the Authority under this Paragraph 17.02 may result in the reduction of the Airline's Premises and Equipment and/or cause the Airline to vacate Premises and relocate to other Premises. The reallocation of any Premises shall be accomplished in accordance with a utilization study conducted by the Authority which shall take into account the following factors, among others: * * *.

4. Paragraph 17.02.1, within Section 17.02 ("Periodic Reallocation of Premises"), is deleted in its entirety and is replaced with the following:

17.02.1 In making such reallocations at an Airport, the Authority shall give the Airline, along with other Signatory Airlines at the Airport, not less than thirty (30) days written notice of the proposed space reallocations together with the Authority's reasons for the reallocations. The Airline shall during the thirty (30) day period be entitled to respond to the proposed reallocations in writing. A final decision of the Authority shall be in writing from the CEO and contain the basis therefor along with the effective date of a reallocation, if any.

5. Exhibit D-H/Supplement and Exhibit D-I/Supplement, which are attached hereto, supplement Exhibit D-H and Exhibit D-I, respectively, which are attached to the 2015 Agreement. These two supplemental exhibits describe new Projects within the Capital Construction Program for Dulles on which capital expenditures are anticipated being made during the Period of the 2015 Agreement, as amended, applicable to Dulles. These new Projects have been approved by the Airline and other airlines executing this First Amendment, and shall be treated under the 2015 Agreement, as amended, in the same manner as the Projects described in Exhibits D-H and Exhibit D-I.

6. This First Amendment amends certain sections and paragraphs of the 2015 Agreement. All sections and paragraphs of the 2015 Agreement that are not amended by this First Amendment shall remain in full force and effect. In the event of any conflict between the sections and paragraphs of the 2015 Agreement which have been amended by this First Amendment and other sections and paragraphs of the 2015 Agreement, the sections and paragraphs, as amended by this First Amendment, shall control.

7. This First Amendment shall be effective as to the Airline (Amendment Effective Date) on the later of (i) the date it is executed by the Airline or (ii) the date on which it has been executed by Scheduled Air Carriers operating at Dulles that collectively accounted for at least fifty-one percent (51%) of the Landing Fees and Terminal Rentals paid by all Signatory Airlines operating at Dulles during the prior Fiscal Year. The Airline acknowledges and agrees that, from the Amendment Effective Date through December 31, 2024, it shall continue to lease the premises at Dulles described in Exhibit D-B-2 ("Dulles Airline Premises Information Sheets") to its 2015 Agreement (Original Ex. D-B-2) unless, at the time of the Airline's execution of this First Amendment, Original Ex. D-B-2 has been revised by the Airline and a revised exhibit (Revised Ex. D-B-2), with a stated effective date which is not later than January 1, 2018, has been approved by the Authority (which approval may not be unreasonably withheld), in which case the Airline shall lease the premises described in Revised Ex. D-B-2 from its stated effective date through December 31, 2024. In the event the Airline has not executed the First Amendment by January 1, 2018, the Airline will no longer be a Signatory Airline at Dulles until it re-executes the 2015 Agreement, as amended by the First Amendment and with a new Exhibit D-B-2.

8. This First Amendment may be executed in multiple identical counterparts, each of which shall constitute an original and all of which shall collectively constitute a single agreement.

[Signatures on following page]

IN WITNESS WHEREOF, the Authority and the Airline have executed this First Amendment as follows:

METROPOLITAN WASHINGTON
AIRPORTS AUTHORITY

By: _____
John E. Potter
Its: President and Chief Executive Officer

_____ Date

AIRLINE:

By: _____
Name: _____
Its: _____

_____ Date

Attachments

EXHIBIT D-H/SUPPLEMENT
DULLES CAPITAL CONSTRUCTION PROGRAM:
OVERALL PROGRAM SUMMARY
2018-2024

	Proposed Budget U/L 2018 - 2025	Approved: FY 2015 Budget: IAD U/L 2015 - 2017	Total Project Cost
Buildings Subtotal	\$ 182,210,059	\$ 23,922,881	\$ 206,132,940
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Concourse A/B	\$ 22,625,000	\$ 1,175,000	\$ 23,800,000
A380 Gate Upgrades	\$ 8,250,000	\$ 250,000	\$ 8,500,000
2 Gate Sterile Corridor	\$ 1,223,000	\$ 277,000	\$ 1,500,000
International Gate Conversion - 2 Gates	\$ 10,152,000	\$ 648,000	\$ 10,800,000
B Gates Roof Replacement (16 Gates)	\$ 3,000,000	\$ -	\$ 3,000,000
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Aircraft Gate Expansion	\$ 55,000,000	\$ -	\$ 55,000,000
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Concourse C/D	\$ 45,105,059	\$ 22,527,881	\$ 67,632,940
Concession Building Access	\$ -	\$ 2,002,553	\$ 2,002,553
Boiler Replacement	\$ -	\$ 1,101,184	\$ 1,101,184
Replace Electrical Panel Boards	\$ 1,037,413	\$ -	\$ 1,037,413
Fuel Line System Upgrades	\$ 12,688,006	\$ 5,362,152	\$ 18,050,158
Elevator and Escalator Monitoring Control Expansion	\$ 918,379	\$ -	\$ 918,379
Electric Feeder and Duct Bank Replacement	\$ -	\$ 8,927,570	\$ 8,927,570
Electric Substation and Motor Control Centers	\$ 4,561,778	\$ 3,340,879	\$ 7,902,657
Concession Plumbing Investigation	\$ 83,500	\$ -	\$ 83,500
Apron Rehabilitation	\$ 7,000,000	\$ -	\$ 7,000,000
Mobile Lounge Dock Pavement Rehabilitation	\$ 3,290,000	\$ -	\$ 3,290,000
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Building Mechanical Systems/ Exterior Repairs/Barrier Protection/Other Upgrades			
Building Barrier Replacement	\$ -	\$ 1,682,719	\$ 1,682,719
Roof Gutter Replacement/Realignment	\$ -	\$ 110,824	\$ 110,824
Metal Panel Soffit Repairs	\$ -	\$ -	\$ -
Duncan Door Mechanism Replacement	\$ -	\$ -	\$ -
Rooftop Units	\$ 10,690,880	\$ -	\$ 10,690,880
Fire Alarm System	\$ -	\$ -	\$ -
Sprinkler System	\$ -	\$ -	\$ -
Elevator Retrofit	\$ 559,424	\$ -	\$ 559,424
Escalator Retrofit	\$ 3,049,482	\$ -	\$ 3,049,482
		\$ -	\$ -
Exterior/Interior Finishes and Lightning Protection	\$ -	\$ -	\$ -
Replacement of Roof Skylights	\$ 507,639	\$ -	\$ 507,639
Metal Panel Siding Repainting	\$ -	\$ -	\$ -

	Proposed Budget U/L 2018 - 2025	Approved: FY 2015 Budget: IAD U/L 2015 - 2017	Total Project Cost
Ceiling Panel Replacement Base Bid	\$ -	\$ -	\$ -
Ceiling Panel Replacement Alternate	\$ -	\$ -	\$ -
Building Lightning Protection	\$ -	\$ -	\$ -
Building Plumbing System	\$ 718,558	\$ -	\$ 718,558
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JP Morgan Chase Office Building Rehabilitation		\$ 4,415,000	\$ 4,415,000
<i>VAV Unit Rehabilitation</i>			
<i>Air Conditioning System Replacement</i>			
<i>Toilet Room Renovations</i>			
<i>Remaining Misc Items from Assessment</i>			
<i>Roof Replacement</i>			
<i>Exterior Panel Replacement</i>			
<i>Boiler Replacement</i>			
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Dulles East Building		\$ 3,990,000	\$ 3,990,000
<i>Air Handler Replacement</i>			
<i>Perimeter Fan Coil Unit Replacement</i>			
<i>Public Toilet Room Renovations</i>			
<i>Remaining Misc Items from Assessment</i>			
<i>Exterior Panel Replacement</i>			
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IAB Capacity Enhancements	\$ 24,000,000		\$ 24,000,000
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Main Terminal Entrance Doors	\$ 4,280,000	\$ 220,000	\$ 4,500,000
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Main Terminal Roof Replacement	\$ 5,000,000	\$ -	\$ 5,000,000
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Shops and Warehouse Building Renovations		\$ 1,600,000	\$ 1,600,000
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Fire Fighting Training Facility		\$ 5,000,000	\$ 5,000,000
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Baggage Handling System Improvements- Inbound & Outbound	\$ 25,000,000	\$ -	\$ 25,000,000
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Landside Pedestrian Tunnel Escalator Replacement		\$ -	\$ -
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Main Terminal Ticket Counter Capacity Expansion	\$ 1,200,000	\$ -	\$ 1,200,000

	Proposed Budget U/L 2018 - 2025	Approved: FY 2015 Budget: IAD U/L 2015 - 2017	Total Project Cost
Airfield Subtotal	\$ 145,400,000	\$ 34,719,800	\$ 180,119,800
Taxiway S and W-5		\$ 3,500,000	\$ 3,500,000
Airfield Pavement Panel Replacement	\$ 115,400,000	\$ 31,219,800	\$ 146,619,800
Runway 1R-19L - Design And Emergency Repairs	\$ 30,000,000	\$ -	\$ 30,000,000
Roads Subtotal	\$ 19,500,000	\$ 15,000,000	\$ 34,500,000
Access Highway Road Improvements	\$ 13,000,000	\$ 15,000,000	\$ 28,000,000
Commercial Curb- 3rd Lane Expansion	\$ 6,500,000	\$ -	\$ 6,500,000
Utility Systems Subtotal	\$ 21,775,000	\$ 11,125,000	\$ 32,900,000
Cub Run Pump Station Improvements		\$ 1,500,000	\$ 1,500,000
Utility Building Main Feeder Replacement	\$ 3,775,000	\$ 225,000	\$ 4,000,000
Power Distribution Upgrades	\$ 2,700,000	\$ -	\$ 2,700,000
Convert Underground to Above Ground Storage Tanks		\$ 1,250,000	\$ 1,250,000
Airfield Stormwater Sewer Reconstruction		\$ 250,000	\$ 250,000
Replace Telecommunications Duct bank - Autopilot Drive		\$ 3,600,000	\$ 3,600,000
Sanitary Sewer System Improvements (miscellaneous projects)	\$ 10,800,000	\$ 3,700,000	\$ 14,500,000
Stormwater Management Facilities	\$ 4,500,000	\$ 600,000	\$ 5,100,000
Other Subtotal	\$ 76,707,578	\$ 42,179,157	\$ 118,886,735

	Proposed Budget U/L 2018 - 2025	Approved: FY 2015 Budget: IAD U/L 2015 - 2017	Total Project Cost
Aero Train Major Maintenance Cycle	\$ 29,837,578	\$ 10,162,422	\$ 40,000,000
Mobile Lounge/Planemate Rehabilitation	\$ 20,670,000	\$ 7,330,000	\$ 28,000,000
Aerial Imagery And Contour Lines		\$ 1,386,735	\$ 1,386,735
Special Systems	\$ 8,200,000	\$ 5,300,000	\$ 13,500,000
Fire Alarm System Replacement	\$ 6,500,000	\$ -	\$ 6,500,000
Infrastructure Modernization & Integration Services		\$ 6,000,000	\$ 6,000,000
Data Center Consolidation		\$ 1,750,000	\$ 1,750,000
Public WiFi and Cellular Services and Program Management		\$ 750,000	\$ 750,000
Public Safety System Replacement Phase 1- 911, CrashNet		\$ 3,000,000	\$ 3,000,000
Unified Digital Signage and Content Management Design Study & Phase I Implementation		\$ 1,750,000	\$ 1,750,000
Audio/Visual Paging System Replacement	\$ 4,500,000	\$ -	\$ 4,500,000
Enterprise Mobile App and Website Ph 2 Implementation		\$ 1,750,000	\$ 1,750,000
Other Planning and Programming	\$ 7,000,000	\$ 3,000,000	\$ 10,000,000
TOTAL	\$ 445,592,637	\$ 126,946,838	\$ 572,539,475

EXHIBIT D-I / SUPPLEMENT
DULLES CAPITAL CONSTRUCTION PROGRAM
INDIVIDUAL PROJECT SUMMARIES
2018-2024



Buildings

NEW PROJECT

A380 Gate Upgrades

AIRPORT: Washington Dulles International Airport

PROJECT: A380 Gate Upgrades

BUDGET CLASSIFICATION: Buildings

PROJECT ACTIVITY: Design, Construction

NEED: This budget request anticipates and prepares for the next A380 aircraft arrival. Existing gates need to be reconfigured/modified to accommodate the aircraft. Activity forecasts through 2025 predict a new/additional A380 aircraft operating at the airport.

BUDGET BOOK DESCRIPTION: The improvements require addition of a fixed bridge section, two new passenger boarding bridges, two new fuel pits, markings, associated exterior building skin penetrations, security, communications, and holdroom modifications. Preliminary Gate selection for the modification is Gate B41/43.

TOTAL PROGRAM COST: \$8,250,000

NEW PROJECT

2 Gate Sterile Corridor

AIRPORT: Washington Dulles International Airport

PROJECT: 2 Gate Sterile Corridor

BUDGET CLASSIFICATION: Buildings

PROJECT ACTIVITY: Construction

NEED: International traffic is expected to increase through 2025 resulting in the need for more international gates. Sterile corridors are required between the gate and the mobile lounge dock to transfer passengers between the areas. The gates must be retrofitted with sterile corridors in order to maintain proper custody and control of passengers.

PROPOSED BUDGET BOOK DESCRIPTION: The improvements require the addition of a sterile corridor on the inside of the building's exterior wall. The corridor will separate the general public by glass partitions to convey international arrivals to a mobile lounge for transportation to the IAB. It also includes the necessary HVAC, security and communications.

Total Program Cost: **\$1,223,000**

2018-
2024

New CDP Funding: Project Summaries

NEW PROJECT

International Gate Conversion- 2 Gates

AIRPORT: Washington Dulles International Airport

PROJECT: International Gate Conversion- 2 Gates

BUDGET CLASSIFICATION: Buildings

PROJECT ACTIVITY: Construction

NEED: Growth in international traffic is expected through 2024. To accommodate this larger fleet of aircraft, narrow-body gates will need to be modified to accommodate a wide-body aircraft. Most international aircraft are served by dual loading bridges.

PROPOSED BUDGET BOOK DESCRIPTION: Improvements require the addition of a new passenger boarding bridge and fixed bridge section, utilizing the existing loading bridge so the gate then will have two loading bridges, new fuel pits, pavement markings, exterior wall penetrations, and patching of existing finishes.

Total Program Cost: **\$10,152,000**

2018-
2024

New CDP Funding: Project Summaries

NEW PROJECT

B Gates Roof Replacement (16 Gates)

AIRPORT: Washington Dulles International Airport

PROJECT: B Gates Roof Replacement (16 Gates)

BUDGET CLASSIFICATION: Buildings

PROJECT ACTIVITY: Construction

NEED: The existing roof for the 16 Gate Concourse B is 20+ years old, deteriorating, and subject to leaks. It has been patched as much as possible over the years. A new roof membrane is required.

PROPOSED BUDGET BOOK DESCRIPTION: This project will replace the existing Concourse B roof membrane for the 16 gates.

Total Program Cost: **\$3,000,000**

2018-
2024

New CDP Funding: Project Summaries

NEW PROJECT

Aircraft Gate Expansion

AIRPORT: Washington Dulles International Airport

PROJECT: Aircraft Gate Expansion

BUDGET CLASSIFICATION: Buildings

PROJECT ACTIVITY: Construction

NEED: The airport is experiencing a lack of gate capacity and flexibility for domestic and international flights. Additional gates are needed to meet future demand.

PROPOSED BUDGET BOOK DESCRIPTION: This project will evaluate concepts and alternatives to construct additional gates in the terminal/midfield area. Approximately 6 gates will be constructed.

Total Program Cost: **\$55,000,000**

2018-
2024

New CDP Funding: Project Summaries

NEW PROJECT

Concourse C/D – Replace Electrical Panelboards 600 Amp and Larger

AIRPORT: Washington Dulles International Airport

PROJECT: Concourse C/D - Replace Electrical Panelboards 600 Amp and Larger

BUDGET CLASSIFICATION: Buildings

PROJECT ACTIVITY: Design, Construction

NEED: There are 54 electric panelboards in Concourse C/D rated 600 amps and higher. An assessment of these panelboards revealed some in need of immediate replacement due to deterioration and damaged parts. Others will need replacement in 3 to 5 years.

PROPOSED BUDGET BOOK DESCRIPTION: Twenty (20) panelboards will be replaced.

Total Program Cost: **\$1,037,413**

NEW PROJECT

Fuel Line System Repairs

AIRPORT: Washington Dulles International Airport

PROJECT: Fuel Line System Repairs

BUDGET CLASSIFICATION: Buildings

PROJECT ACTIVITY: Design, Construction

NEED: The existing Concourse C/D fuel system including lines, hydrant pits, and isolation valves are aged and failing. Components are in excess of 20+ years old. Fuel pits are not structurally sound, pipes are deteriorating, and valves do not hold pressure. Additionally, the fuel system does not have the capability to shut down small sections which result in numerous gates taken out of service when repairs are needed. Additionally, the cathodic protection is failing.

PROPOSED BUDGET BOOK DESCRIPTION: A program is required to replace / repair the approximately 10 valve pits, associated valves, and lateral lines will be replaced. Additionally, approximately 1300' of pipe repair/replacement will be conducted.

TOTAL PROGRAM COST: \$12,688,006

2018-
2024

New CDP Funding: Project Summaries

NEW PROJECT

IAD Concourse C/D – Elevator and Escalator Monitoring/Control System Expansion

AIRPORT: Washington Dulles International Airport

PROJECT: Concourse C/D Elevator and Escalator Monitoring/Control System Expansion

BUDGET CLASSIFICATION: Buildings

PROJECT ACTIVITY: Design, Construction

NEED: There are currently 12 hydraulic passenger elevators and 5 escalators on Concourse C/D which are maintained by MWAA. These facilities have no means of being remotely monitored and are dependent on tenants/customers to be alerted to a problem. To ensure the security and safety of the public, it is recommended to connect passenger elevators and escalators to the automated building management Liftnet system.

PROPOSED BUDGET BOOK DESCRIPTION: The Liftnet System will be expanded to include the above escalators/elevators. This requires data connectivity and additional processing boards in the control room of each facility..

TOTAL PROGRAM COST: \$918,379

NEW PROJECT

Concourse C/D – Electrical Unit Substations and Motor Control Centers

AIRPORT: Washington Dulles International Airport

PROJECT: Concourse C/D - Electrical Unit Substations and Motor Control Centers

BUDGET CLASSIFICATION: Buildings

PROJECT ACTIVITY: Construction

NEED: Power is distributed throughout concourse C/D via seven single-ended secondary unit substations. Generally, the unit substations distribution sections consists of the General Electric Power Break I circuit breakers including RMS-9 trip Units. These breakers are no longer being manufactured by General Electric, and therefore, the replacement parts are not readily available. Six of the 7 substation units are recommended for replacement.

Motor Control Centers (MCC) are fed from the unit substations and were originally located near or in the mechanical rooms providing power to the motors and small loads associated with the mechanical rooms. Four of the five MCC's are more than fifty years old. Continental, the manufacturer of the referenced MCC's, is no longer in business and consequently, the MCC's replacement parts are not available. 4 of the 5 MCC are recommended for replacement.

PROPOSED BUDGET BOOK DESCRIPTION: Five new double ended substations and 4 motor control centers will be replaced.

Total Program Cost: **\$4,561,778**

2018-
2024

New CDP Funding: Project Summaries

NEW PROJECT

Concourse C/D – Concession Plumbing Investigation

AIRPORT: Washington Dulles International Airport

PROJECT: Concourse C/D - Concession Plumbing Investigation

BUDGET CLASSIFICATION: Buildings

PROJECT ACTIVITY: Investigation

NEED: The current tenants combine their sanitary system with that of passengers through multiple 4" vertical sanitary building drains serving the concourse level. The 4" vertical sanitary building drains drop through the apron level and then turn to connect to a 12" sanitary building sewer pipe outside the building. Over the life of Concourse C/D so many tenant changes, additions, and expansions have occurred that the system of vertical and lateral sanitary lines has become a tangled web of undocumented plumbing. To facilitate future concourse expansion and concession planning, it is recommended that field survey and testing be accomplished to develop an accurate set of as-built documentation.

PROPOSED BUDGET BOOK DESCRIPTION: Investigation of the sanitary sewer will consist of mapping 4" vertical risers as well as the sanitary mains located outside of Concourse C/D.

Total Program Cost: **\$83,500**

2018-
2024

New CDP Funding: Project Summaries

NEW PROJECT

Concourse C/D - Apron Rehabilitation

AIRPORT: Washington Dulles International Airport

PROJECT: Concourse C/D - Apron Rehabilitation

BUDGET CLASSIFICATION: Airfield Pavements

PROJECT ACTIVITY: Design, Construction

NEED: Concourse C/D Apron pavement is more than 30 years old and extensive repairs are needed on both the north and south sides of the concourses. The most severe areas were targeted in the 2011-2012 program with full slab replacements and bituminous crack repairs resulting in an average Pavement Condition Index (PCI) increase. However, the PCI is very low (48 and 66) for much of the apron. Extending the pavement life will require additional full slab replacements as well as other repairs to prevent FOD and maintain operations.

PROPOSED BUDGET BOOK DESCRIPTION: Repair / replace apron pavement adjacent to Concourse C/D on the north and south sides. Repairs will consist of full slab replacements, crack repair, partial depth spall repairs, and resealing of existing joints. Work includes approximately 9,400sy of full depth repairs, 18,000lf of crack sealing, and 11,000lf of joint repairs.

TOTAL PROGRAM COST: \$7,000,000

2015-
2024

New CDP Funding: Project Summaries

NEW PROJECT

Concourse C/D – Mobile Lounge Dock Pavement Rehabilitation

AIRPORT: Washington Dulles International Airport

PROJECT: Concourse C/D - Mobile Lounge Dock Pavement
Rehabilitation

BUDGET CLASSIFICATION: Airfield Pavements

PROJECT ACTIVITY: Design, Construction

NEED: Mobile Lounge Docks for Concourses C/D are experiencing pavement failures consisting of shattered slabs, corner spalls, cracking, and in the case of the FIS dock pavements differential settlement has impacted operations. In order to maintain operations, these areas are in need of repairs.

PROPOSED BUDGET BOOK DESCRIPTION: The mobile lounge docks require full slab replacement across the entire dock area. In addition, to avoid future settlement which impacts the mobile lounge docking ability, replacement of base material is also recommended. Because docks must remain active during construction, phasing of the work at a rate of one dock per phase will be required. It includes approximately 2,500sy of slab replacement at four dock locations.

Total Program Cost: **\$3,290,000**

2018-
2024

New CDP Funding: Project Summaries

NEW PROJECT

Concourse C/D – Roof Top A/C Unit Replacements

AIRPORT: Washington Dulles International Airport

PROJECT: Concourse C/D - Roof Top A/C Unit Replacements

BUDGET CLASSIFICATION: Buildings

PROJECT ACTIVITY: Construction

NEED: Ten roof top air conditioning units, of the 68, are identified to be replaced immediately. The units vary size up to 50 tons. Many of the units are 20+ years old and have experienced many repairs.

PROPOSED BUDGET BOOK DESCRIPTION: 10 roof top units will be removed and replaced. Project also includes new controls, modification of rooftop support structure, and electrical connections, and building automation system connectivity/control.

Total Program Cost: **\$10,690,880**

NEW PROJECT

Concourse C/D – Elevator Retrofit

AIRPORT: Washington Dulles International Airport

PROJECT: Concourse C/D – Elevator Retrofit

BUDGET CLASSIFICATION: Buildings

PROJECT ACTIVITY: Construction

NEED: Elevators have repeated reliability issues and need to be retrofitted. Elevators currently freeze in place with the loss of power. Installation of a device in the elevator control room permits the cars to continue to travel to a normal stop level. With exception of elevator #1936/ Rotunda, all elevators require new control panels with key access.

PROPOSED BUDGET BOOK DESCRIPTION: Retrofit 12 elevators.

Total Program Cost: **\$559,424**

NEW PROJECT

Concourse C/D – Escalator Retrofit

AIRPORT: Washington Dulles International Airport

PROJECT: Concourse C/D Escalator Retrofit

BUDGET CLASSIFICATION: Buildings

PROJECT ACTIVITY: Construction

NEED: Escalators have repeated reliability issues and need to be retrofitted. In general, it is typically considered that the moving parts of an escalator have a 20-25 year lifespan. Part replacement, therefore, needs to occur on a rotating schedule based on the life of each escalator. Escalators retrofits include the replacement of steps, chains and rollers. To insure that this work has minimal impact on the functioning of the concourse, the operation is organized as a relay effort whereby 9 consecutive crews complete the work over a 72 hour period.

PROPOSED BUDGET BOOK DESCRIPTION: Retrofit 5 escalators.

Total Program Cost: **\$3,049,482**

NEW PROJECT

Concourse C/D – Replace Roof Skylights

AIRPORT: Washington Dulles International Airport

PROJECT: Concourse C/D - Replace Roof Skylights

BUDGET CLASSIFICATION: Buildings

PROJECT ACTIVITY: Construction

NEED: Existing skylights are original construction and are leaking. They have had repeated maintenance over the years, but now need replacement. Additionally, the glazing load capability is unknown. Skylights are of different types and sizes and there is a total of thirty seven to be replaced.

PROPOSED BUDGET BOOK DESCRIPTION: Replacement of all skylights.

Total Program Cost: **\$507,639**

2018-
2024

New CDP Funding: Project Summaries

NEW PROJECT

Concourse C/D – Building Plumbing Systems

AIRPORT: Washington Dulles International Airport

PROJECT: Concourse C/D – Building Plumbing Systems

BUDGET CLASSIFICATION: Buildings

PROJECT ACTIVITY: Construction

NEED: The existing plumbing system is subject to frequent back-ups due to sediment build up. The backups occur throughout the system are most likely due to age. Also, as-built drawings of the system are not accurate.

PROPOSED BUDGET BOOK DESCRIPTION: The existing 12” East-West Sanitary Main will be bored and relined to clear sediments and increase flow capacity. Apron level piping will be video mapped to have accurate system layouts for addition of future concession and tenant requirements.

Total Program Cost: **\$718,558**

NEW PROJECT

IAB Capacity Enhancements

AIRPORT: Washington Dulles International Airport

PROJECT: IAB Capacity Enhancements

BUDGET CLASSIFICATION: Buildings

PROJECT ACTIVITY: Construction

NEED: New Customs and Border Protection Agency guidelines and standards incorporate new technology in order to streamline international passenger processing rates. Additionally, new processes and procedures are being put into place. These changes require reconfiguration and expansion of the IAB. The passenger will have a higher level of service after the improvements are made.

PROPOSED BUDGET BOOK DESCRIPTION: This project will implement a “one stop” CBP processing concept which would blend primary screening to include both passport control and customs function and locate secondary screening adjacent to primary screening. Approximately 15,000 sqft facility addition will be accompanied by interior reconfiguration which will enhance the functional layout.

Total Program Cost: **\$24,000,000**

2015-
2024

New CDP Funding: Project Summaries

NEW PROJECT

Main Terminal Entrance Doors

AIRPORT: Washington Dulles International Airport

PROJECT: Main Terminal Entrance Doors

BUDGET CLASSIFICATION: Buildings

PROJECT ACTIVITY: Construction

NEED: The replacement of the main terminal entrances on the departures level of the Main Terminal, possibly with revolving-type doors will improve the appearance, efficiency and energy savings of the terminal building. Complaints from the ticket agents and the general public during inclement weather conditions have increased annually as the existing doors age and require more maintenance. As passenger traffic continues to increase, the doors remain open longer, depressurizing the building and allowing infiltration of unconditioned air. Repair parts for the doors are becoming increasingly harder to find.

PROPOSED BUDGET BOOK DESCRIPTION: This project includes the removal and replacement of all existing 16 main entrances on the departure level of the Main Terminal with revolving-type doors.

Total Program Cost: **\$4,280,000**

2015-
2024

New CDP Funding: Project Summaries

NEW PROJECT

Main Terminal Roof Replacement

AIRPORT: Washington Dulles International Airport

PROJECT: Main Terminal Roof Replacement

BUDGET CLASSIFICATION: Buildings

PROJECT ACTIVITY: Construction

NEED: The Main Terminal roof, original building and east/west extensions, were last repaired in 1995 and 1998. Those repairs are failing and the overall condition of the roof will not support further spot repairs.

PROPOSED BUDGET BOOK DESCRIPTION: This project will replace the entire hypalon roof.

Total Program Cost: **\$5,000,000**

NEW PROJECT

Baggage Handling System Improvements-Inbound & Outbound

AIRPORT: Washington Dulles International Airport

PROJECT: Baggage Handling System Improvements- Inbound & Outbound

BUDGET CLASSIFICATION: Buildings

PROJECT ACTIVITY: Design, Construction

NEED: The outbound baggage system has been prone to large queues due to a combination of baggage infrastructure failures and bag alarm rates. Also, the inbound baggage system is susceptible to long queues when pre-cleared international flight baggage is off-loaded.

PROPOSED BUDGET BOOK DESCRIPTION: This project will address shortcomings of the inbound and outbound systems. Improvements may include updated baggage conveyance equipment, additional baggage conveyance routes and other infrastructure improvements. It will also adapt carousel capacity for domestic, international, and precleared flights.

Total Program Cost: **\$25,000,000**

2018-
2024

New CDP Funding: Project Summaries

NEW PROJECT

Main Terminal Ticket Counter Capacity Expansion

AIRPORT: Washington Dulles International Airport

PROJECT: Main Terminal Ticket Counter Capacity Expansion

BUDGET CLASSIFICATION: Buildings

PROJECT ACTIVITY: Construction

NEED: The ticket counter capacity has reached its peak. Existing airlines have limited available space to grow into and new entrants are challenged by the same. More ticketing capacity is required.

PROPOSED BUDGET BOOK DESCRIPTION: This project will evaluate and implement an increase to existing ticketing capacity through a variety of methods including the use of kiosks, additional ticketing counters on the south side of the ticketing level, and CUTE/CUPPS technology.

Total Program Cost: **\$1,200,000**



Airfield



METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

NEW PROJECT

IAD AIRFIELD PAVEMENT PANEL REPLACEMENT

AIRPORT: Washington Dulles International Airport

PROJECT: Airfield Pavement Panel Replacement

BUDGET CLASSIFICATION: Airfield

PROJECT ACTIVITY: Design, Construction

NEED: This budget request represents those projects deemed to be in need of reconstruction based on detailed pavement assessments. The Pavement Management System (PMS) is required by FAA to be applied at an airport in order for that airport sponsor to be eligible for FAA funding. The PMS assists in determining the cost effectiveness of making repairs to the pavement versus complete reconstruction and predicts the decline of the Pavement Condition Index (PCI) with time for each scenario. The Dulles airfield is divided into five separate complexes. Each year, one or two of the complexes are inspected so that all pavements are inspected within a three-year period.

PROPOSED BUDGET BOOK DESCRIPTION: Below are the priority projects for construction.

- Reconstruction and widening of Taxilane B
 - Middle Section 1 and 2
 - West End Section 1 (Construction Only)
- Reconstruct Apron B gates
 - South East End, Section 3&4
 - South West End Section 3&4
- Reconstruct North Runway 1C/19C High Speed Taxiways
- Reconstruct Taxiway Y2, Y3, Y4 & Y5
- Reconstruct Taxilane A
 - Partial Sections 1 and 3
 - Section 2 and Partial Sections 1 and 3(Design Only)
- Pavement Management System Updates

Total Project Cost: \$115,400,000

2018-
2024

New CDP Funding: Project Summaries

NEW PROJECT

IAD Runway 1R-19L: Reconstruction/Widening Design and Emergency Repairs

AIRPORT: Washington Dulles International Airport

PROJECT: Reconstruct/Widen Runway (Design) And Emergency Repairs

BUDGET CLASSIFICATION: Airfield

PROJECT ACTIVITY: Design and Repair

NEED: Critical sections need emergency repairs to keep the runway operational. Subsequently, design of a fully reconstructed runway will be completed. This pavement is original to the airport and has been in service for 50+ years. Stop-gap repairs and selective panel replacement have extended the life of the pavement, however many patches and replacement slabs are beginning to deteriorate. The PCIs continue to decline and reconstruction is ultimately needed.

PROPOSED BUDGET BOOK DESCRIPTION: This project consists of the design for the reconstruction of Runway 1R/19L. It also includes any emergency repairs to maintain the runway in serviceable condition until the reconstruction can occur.

Total Program Cost: \$30,000,000



Roads



METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

2018
2024

New CDP Funding: Project Summaries

NEW PROJECT

Dulles Airport Access Road Improvements/Resurfacing

AIRPORT: Washington Dulles International Airport

PROJECT: Road Improvements

BUDGET CLASSIFICATION: Roads

PROJECT ACTIVITY: Design, Construction

NEED: The Dulles Access Highway will receive an overlay in 2017 between Centreville Road and Saarinen Circle to alleviate distresses due to age. Additional pavement overlays are needed between Centreville Road and Wiehle Avenue to alleviate the remaining distresses. In addition, some sections of the highway between Wiehle Avenue and the eastern terminus are expected to require some rehabilitation as the last overlay performed will be 10 years old in 2023.

PROPOSED BUDGET BOOK DESCRIPTION: The asphalt overlay assumes to be 2.5" thick between Centreville Road and Wiehle Avenue in both the eastbound and westbound direction. Additional pavement overlays on the eastern half between Wiehle Avenue and the eastern terminus will be needed as the life of the last overlay expires.

Total Program Cost: **\$13,000,000**

2018-
2024

New CDP Funding: Project Summaries

NEW PROJECT

Commercial Curb – 3rd Lane Expansion

AIRPORT: Washington Dulles International Airport

PROJECT: Commercial Curb – 3rd Lane Expansion

BUDGET CLASSIFICATION: Roads

PROJECT ACTIVITY: Design, Construction

NEED: As enplanements grow at IAD, ground transportation activity continues to grow proportionally. Recent upsizing of shuttle buses for remote parking lots and additional transit bus service further takes up valuable commercial curb space. Additionally, limousine, TNC, hotel shuttles, and other for-hire services continue to stress the limits of the curb. In order to allow convenient customer friendly wayfinding to the commercial curb, additional space needs to be created for this growth.

PROPOSED BUDGET BOOK DESCRIPTION: Commercial Curb 3rd Lane Expansion consists of the creation of a third commercial lane through the bowl parking lot with an adjacent curb. For hire vehicles, transit buses and hotel shuttles are among the expected uses for this curb.

Total Project Cost: \$6,500,000



Utilities



METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

2018-
2024

New CDP Funding: Project Summaries

NEW PROJECT

IAD Utility Building Main Feeder Replacement

AIRPORT: Washington Dulles International Airport

PROJECT: Electrical Feeders Replacement to East & West Utility Buildings

BUDGET CLASSIFICATION: Utilities / Electrical

PROJECT ACTIVITY: Design, Construction

NEED: The existing main feeders, which serve the East and West Utility Buildings, are reaching the end of their useful life and need to be replaced. These feeders are the sole power conduit for the hot and chilled water (heating and air conditioning) for the airport, Main Terminal, and all facilities adjacent to and north of the Main Terminal, to include but not limited to, parking garages, Cargo Buildings, Office Buildings, Hotels, Car Rentals, FBO's, Hangers, etc.

PROPOSED BUDGET BOOK DESCRIPTION: This project will replace approximately 360,000 linear feet of dual feeders between the RTE 28 substation and the East & West Utility Buildings. The existing duct bank will be reused and new feeders will be pulled in.

Total Program Cost: **\$ 3,775,000**

2018-
2024

New CDP Funding: Project Summaries

NEW PROJECT

IAD Power Distribution Upgrades

AIRPORT: Washington Dulles International Airport

PROJECT: Power Distribution Upgrades

BUDGET CLASSIFICATION: Utility Systems

PROJECT ACTIVITY: Design, Construction

NEED: Electrical power distribution upgrades are needed to replace aging infrastructure, meet code requirements, and/or accommodate growing power requirements.

PROPOSED PROJECT AND BUDGET: Upgrade South Distribution by connecting the South Area Overhead 15KV Electrical Distribution to the 35KV Underground Electrical Distribution System. The existing South Distribution System is fed by Dominion Electric via a separate single line service from Route 50. This Service is subject to interruption about twice a year. Connecting the South Distribution to the existing 35KV Underground Dual Electrical Service from the Route 28 Substation will greatly enhance the South Distribution System reliability and delete a monthly electrical service cost.

Total Project Cost: **\$2,700,000**

NEW PROJECT

**IAD Sanitary Sewer System Improvements
(Miscellaneous Projects)**

AIRPORT: Washington Dulles International Airport

PROJECT: Sanitary Sewer System Improvements

BUDGET CLASSIFICATION: Utility Systems

PROJECT ACTIVITY: Construction

NEED: The E-Line was originally constructed in the 1960's when the airport opened and due to weathering and use it has developed a tremendous amount of infiltration which taxes the capacity of the system to carry effluent. Ground water infiltration results in a charge to the airport through treatment fees. Additionally, new capacity in the form of additional force mains, pump stations, and upgrades to Stallion Branch Phase I are required.

PROPOSED BUDGET BOOK DESCRIPTION: Project will reconstruct/rehabilitate sections of the E-Line (approximately from the Cargo Line to the Potomac Interceptor) and upgrade the Cub Run Pump Station.

Total Project Cost: **\$10,800,000**

NEW PROJECT

IAD Stormwater Management Facilities (North and South)

AIRPORT: Washington Dulles International Airport

PROJECT: Stormwater Management Facilities

BUDGET CLASSIFICATION: Utility Systems

PROJECT ACTIVITY: Design, Construction

NEED: Environmental regulations for stormwater management have recently changed in Virginia. These new regulations took effect in July 2014 and relate in part to the *Chesapeake Bay Preservation Act*. The expected effects under this revised Virginia Stormwater Management Program may trigger comprehensive solutions for stormwater to increase detention quantity and settlement times. IAD is divided into two major drainage basins with the northern basin flowing to the Potomac via Broad run and the southern basin flowing to the Potomac via Cub Run and the Occoquan River. Capture and detention facilities may be needed within either watershed. The most probable improvements will be related to the northern basin, which accounts for more than 90 percent of impervious surfaces at Dulles, and could include work to increase detention time and phosphorus removal at the Horsepen Dam reservoir.

PROPOSED BUDGET BOOK DESCRIPTION: This budget is for development of stormwater management facilities and/or incorporation of stormwater management facilities within projects in response to stricter stormwater management regulations to support upcoming construction projects such as airfield, road, and utility work.

Total Project Cost:

\$4,500,000



Other



METROPOLITAN WASHINGTON AIRPORTS AUTHORITY

2018-
2024

New CDP Funding: Project Summaries

NEW PROJECT

IAD Aero Train Major Maintenance Cycle

AIRPORT: Washington Dulles International Airport

PROJECT: Aero Train Major Maintenance Cycle

BUDGET CLASSIFICATION: Other

PROJECT ACTIVITY: Construction

NEED: The original equipment manufacturer requires periodic maintenance of the Aero Train cars. This project funds contractual support. Maintenance services are performed by the original manufacturer to enable consistency, reliability, and responsibility.

PROPOSED BUDGET BOOK DESCRIPTION: The vehicle maintenance includes brakes, tires and drive systems, and control systems. These funds will be spent over a seven year period.

Total Program Cost: **\$ 29,837,578**

2018-
2025

New CDP Funding: Project Summaries

NEW PROJECT

IAD Mobile Lounge / Planemate Rehabilitation

AIRPORT: Washington Dulles International Airport

PROJECT: Mobile Lounge / Planemate Rehabilitation

BUDGET CLASSIFICATION: Other

PROJECT ACTIVITY: Design, Construction

NEED: The fleet of 19 Mobile Lounges and 30 Planemates require regular rehabilitation due to normal wear and tear. Over the next five years, the entire fleet will need rehabilitation of most major systems. Engines drive axles, HVAC systems, electrical systems, and interior renovations among other systems are replaced. Typically engines and power units have a ten year life while other systems have a life of 15 to 20 years. The Mobile Lounges will be rehabilitated first followed by Planemates. Typically, ten vehicles at a time are taken out of service to achieve pricing efficiency.

PROPOSED BUDGET BOOK DESCRIPTION: This project will rehabilitate approximately 30 planemates and mobile lounges that are in need of repair. Lift devices on the planemates will be rehabilitated 10 at a time followed by engines and drive axles of the mobile lounges at the same rate. Engines and other systems on planemates will follow the completion of mobile lounge rehabilitations in the remaining years.

Total Program Cost: **\$ 20,670,000**

2018-
2024

New CDP Funding: Project Summaries

New Project

IAD Special Systems

AIRPORT: Washington Dulles International Airport

PROJECT: Special Systems

BUDGET CLASSIFICATION: Other

PROJECT ACTIVITY: Study, Design, Construction

NEED: New and existing Airport Electronic / software / hardware systems across the airport (not related to the MWAA's LAN/WAN) need to be installed, expanded, or refreshed over time due to obsolescence, end-of-support and/or end-of –life.

PROPOSED PROJECT AND BUDGET: Sterile Corridor Critical Access Security System, Supervisory Control and Data Acquisition System, Common User Terminal Equipment (CUTE) System, Security Systems (Video Management, Access Control and Alarm Monitoring, Physical Security Information Management, Security Network, etc.), Multi-User Flight Information Display System, and other Airport Electronic Systems.

Total Program Cost: \$8,200,000

2018-
2024

New CDP Funding: Project Summaries

NEW PROJECT

IAD Fire Alarm System Replacement

AIRPORT: Washington Dulles International Airport

PROJECT: Fire Alarm System Replacement

BUDGET CLASSIFICATION: Other

PROJECT ACTIVITY: Design, Construction

NEED: The original equipment manufacturer has submitted the end of product memorandum stating that key components of the airport's existing fire alarm system will no longer be available as early as 2018. All of the existing master panels and system devices will need to be replaced. The wiring between the panels and devices will remain usable.

PROPOSED BUDGET BOOK DESCRIPTION: Replace the fire alarm system components (master panels, reporting devices) throughout the airport; including all concourses, Main Terminal, and Z Gates with a modern, interactive, dynamic system.

Total Program Cost: **\$ 6,500,000**

2018-
2024

New CDP Funding: Project Summaries

New Project

IAD Audio Visual Paging System Replacement

AIRPORT: Washington Dulles International Airport

PROJECT: IAD Audio Visual Paging System Replacement

BUDGET CLASSIFICATION: Other

PROJECT ACTIVITY: Design, Construction

NEED: The Audio/Visual Public Announcement system is used to communicate critical and non-critical audio and visual messages to passengers, airlines, tenants, and employees.

Analog and electronic components for the existing system are no longer available and have to be rebuilt or custom made which is an extended expense and gap in service. The existing system is becoming less reliable; and its limited capabilities make it very difficult for the Authority to be fully compliant with ADA requirements. The age disparity among the hardware and software differs by as much as seventeen (17) plus years, creating inner-operability between the various components. The age, unreliability and limited functionality of the system, coupled with security and ADA requirements, circumvent the Airport's ability to communicate real time messages during adverse and/or emergency situations.

Additionally, the current systems inability to generate revenue obstructs the airports ability to meet one of our major corporate goals.

PROPOSED BUDGET DESCRIPTION: This multi-year project will replace the Audio/Visual Public Announcement System in its entirety with a digital system capable of broadcasting a full range of content. The new system will be installed throughout the Main Terminal, all concourses, the Walk-Back Tunnels, APM Stations, International Arrivals Building, and a wide range of back-of-house spaces.

Total Program Cost: \$4,500,000

2018-
2024

New CDP Funding: Project Summaries

NEW PROJECT

IAD Other Planning and Programming

AIRPORT: Washington Dulles International Airport

PROJECT: Other Planning and Programming

PROJECT ACTIVITY: Study

NEED: Conduct necessary planning studies, project definition documents, scoping, and cost estimating necessary to effectively and efficiently develop projects airport wide.

PROPOSED BUDGET BOOK DESCRIPTION: Planning studies of various kinds are conducted at a comprehensive or system level or are focused to an individual project. The former represent investigations to either complete or revisit elements of the Master Plan. The planning and programming phases of an individual project define the site location and other major elements of the scope, provide a refined project cost, provide coordination with users and stakeholders, and summarize project concepts in sufficient detail so as to focus design efforts.

Total Project Cost: \$7,000,000