

Michael Baker

I N T E R N A T I O N A L

Michael Baker International, Inc.

5020 West Linebaugh Avenue

Suite 240

Tampa, Florida 33624

813-889-3892

Fax 813-889-3893

General Aviation Customs Facility Site Selection

Brooksville-Tampa Bay Regional Airport

Prepared for:

Hernando County Board of County Commissioners

Brooksville, Florida

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Introduction

The Brooksville-Tampa Regional Airport (BKV) is a general aviation (GA) airport which is owned and operated by Hernando County, Florida. The Airport completed a General Aviation Customs Facility Assessment in May 2014 to determine the feasibility of establishing a “Fee Based” General Aviation Customs Facility at BKV in the future. As a result of 2014 study, the Hernando County Board of County Commissioners (BOCC) agreed to initiate further discussions with Customs and Border Patrol (CBP) for the purpose of establishing a User Fee Airport (UFA) customs facility at Brooksville-Tampa Bay Regional Airport in the future. The information contained in this follow-on summary report was used to determine the recommended location for the future UFA facility and support functions at BKV. These results were also incorporated into the airport’s master plan update that was conducted in parallel with this analysis.

Facility Requirements

The staffing and facility size requirements associated with the proposed general aviation customs facility were determined in accordance with the current guidelines contained in the Customs and Border Patrol (CBP) Airport Technical Design Standards for Passenger Processing Facilities. As part of the Customs Assessment study it was determined that the proposed UFA building facility would occupy approximately 2,000 square feet. In addition, the associated aircraft apron should be designed to accommodate Airplane Design Group III aircraft, as represented by the Gulfstream G-V. The proposed site should be easily accessible to existing ground access and be capable of accommodating automobile parking and utility needs. The results of this task were used to identify potential development sites and also to adequately size and provide a preliminary configuration for the proposed alternatives.

Site Location and Layout

Various locations identified in the General Aviation Customs Facility Feasibility Study and the Airport Master Plan Update were further evaluated to determine the preferred site for constructing a future customs facility at BKV. The following locations were considered as part of this analysis:

- Existing Airport Administration Building and adjacent apron;
- Vacant hangar and adjacent apron (near the end of Runway 27);
- Undeveloped western portion of the airport; and
- Area east of Air Commerce Boulevard and adjacent to Taxiway A.

The primary focus of this analysis was to determine a recommended site location and conceptual layout that meets the airside and landside access requirements identified previously in the General Aviation Customs Facility Assessment.

Existing Airport Administration Building and Adjacent Apron

The existing Airport Administration Building was originally considered as a potential UFA customs facility location. Under this development scenario, nearly half of the building would be repurposed/reconstructed to accommodate passenger processing facilities. This would necessitate reconfiguring existing office spaces, the conference room, break room and most of the existing lobby area to meet CBP design standards. Because of security requirements, these areas would not be available for any other use. In addition, the existing aircraft 14,455 square foot apron area is not large enough to accommodate the movement of ADG III design aircraft. Apron improvements needed to accommodate the design aircraft would impact adjoining leaseholds and require the relocation of the existing airport maintenance facility. Therefore, this location was not considered further in this analysis.

Vacant Hangar and Adjacent Apron (American Aviation Training Facility)

During the preparation of the Customs Facility Assessment a vacant hangar facility located at the east end of Helicopter Drive was considered as a potential UFA customs facility location. At the time of the assessment it was determined that this facility had a high initial acquisition cost in addition to the cost of development. Furthermore, if the County were to purchase the hangar and utilize the property for CBP, it would eliminate the potential for a revenue-generating tenant to utilize and maintain the property in the future as opposed to a CBP facility which must be paid for and maintained by the County. Since the completion of the previous study, the County has entered into an agreement with American Aviation to develop this site into a flight training facility. Therefore, this site was not considered any further for this analysis.

New Development on Undeveloped Western Portion of the Airport

One of the challenges of locating the UFA site at BKV is the limited availability of existing developable sites that meet all the facility requirements. Therefore, this option considers the construction of a completely new CBP building and apron on an undeveloped portion of the airport property. This would allow for the construction of a secure and isolated UFA customs building and adjoining apron and taxiway facilities that could be expanded to meet user demands. It is anticipated that the apron development costs would comprise the largest portion of the cost, but it may be eligible for FAA Airport Improvement Program (AIP) funding. From an airside development perspective, the future taxiway improvements planned for this area south of Taxiway C9 would need to be completed prior to or in conjunction with the proposed UFA facility development. Currently the project is slated for the 2020-2024 timeframe in the Airport Master Plan Update. For the landside component, the planned expansion of Technology Drive and Telcom Drive would be required to ensure that adequate ground access and utilities are available to the proposed area of development. This roadway project is anticipated in 2017. Both the landside and airside access concerns associated with this proposed site would impact the timing and drive up the overall cost of the facility at this location.

Area East of Air Commerce Boulevard and Adjacent to Taxiway A

As part of the Master Plan Update, it was determined that the existing Dome Hangars would be replaced by the new T-hangar development on the airport's southeast side. As a result, this site was considered as a possible UFA customs facility location in the future due to its favorable access and availability of utilities. Compared to other available sites, the 3.4 acre site is capable of meeting CBP security requirements and offers suitable airside and landside access and utilities. At the request of the County, several site concepts were considered for this location.

Alternative 1A (**Figure 1**) depicts the development of the CBP building and taxilane/aircraft apron designed to accommodate the movement of an ADG III aircraft. The site configuration also considers the appropriate local right-of-way and set-back requirements. The automobile parking lot shown can accommodate 12 vehicles. In Alternative 1A, the CBP building is oriented in a manner that minimizes space requirements and allows for future expansion capability.

In the event the CBP facility were to close in the future, Alternative 1B (**Figure 2**) was developed to depict how the site depicted in the earlier alternative could be repurposed to accommodate a 20,000 square foot hangar and an aircraft apron capable of supporting ADG III aircraft movement and equipment storage. Under this configuration, area is available for additional equipment storage and/or parking lot improvements.

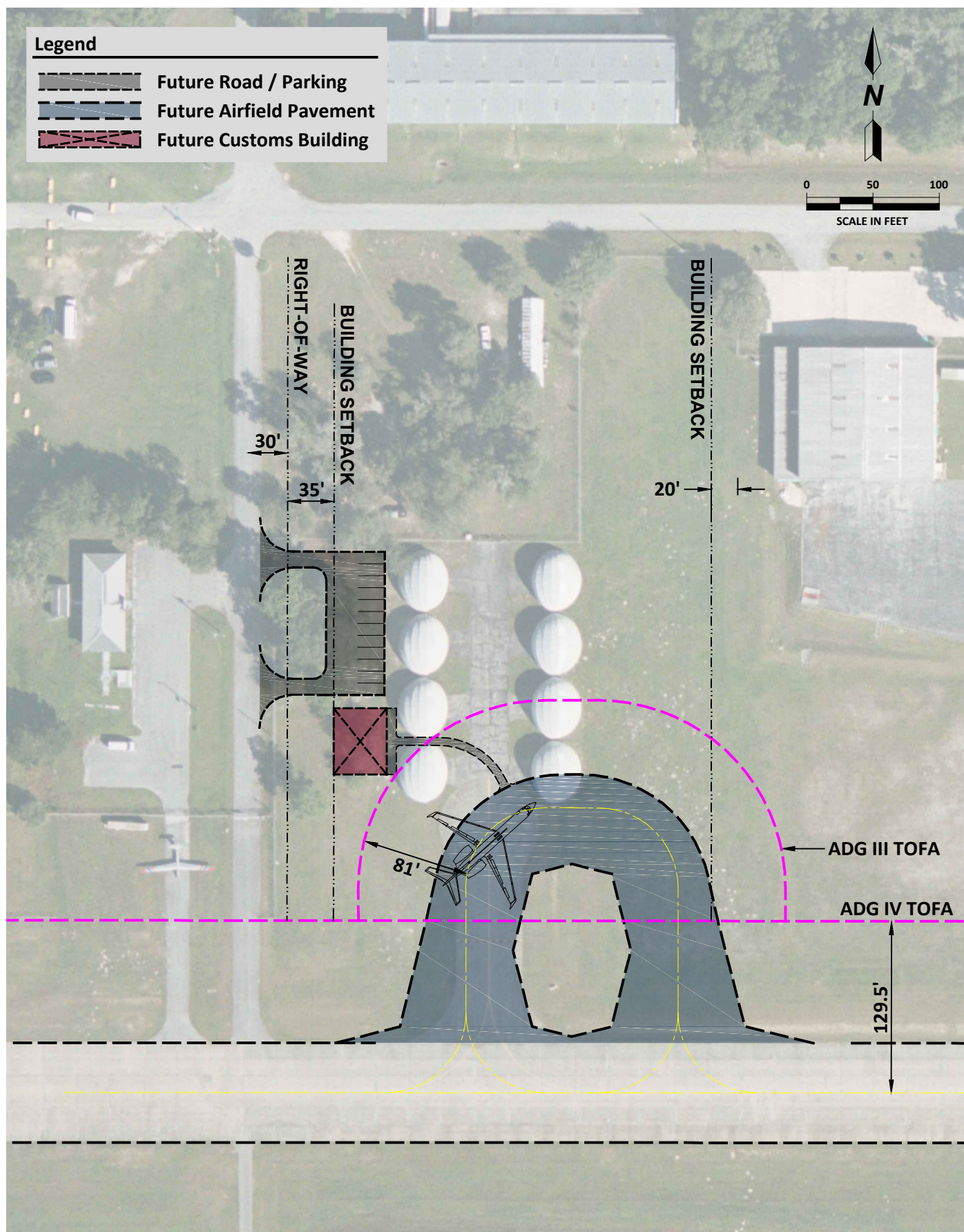
Alternative 2A (**Figure 3**) depicts an alternate location for the CBP building that allows for a larger automobile parking area capable of accommodating 20 vehicles. Landside development associated with this alternative would be located north of the proposed taxilane access which is identical to that shown in Alternative 1A. Similar to Alternative 1B, the Alternative 2B (**Figure 4**) development concept depicts how the site could be repurposed to accommodate up to a 20,000 square foot hangar and an aircraft apron capable of supporting ADG III aircraft movement and equipment storage. Each site configuration considers the appropriate local right-of-way and set-back requirements.

Cost Estimates and Analysis

Cost estimates prepared for the previous customs feasibility study were refined to represent the selected site and layouts proposed. The costs presented in this section (**Tables 1 through 4**) include both hard (construction costs) as well as the soft costs associated design, engineering, and permitting. The \$1.165 million of construction costs associated with the preferred development concept will serve as the basis of future design efforts and funding determinations.

Recommendations

Based upon the results of the analysis presented herein, the concept depicted in Alternative 1A was selected as the preferred development concept (**Figure 5**) for the proposed customs facility. The preferred development concept maximizes the use of existing utilities, access, and results in the lowest construction cost of the options considered. Also, it is recommended that the preferred development concept be incorporated into the Airport Master Plan Update that is being conducted concurrently with this analysis. Since the proposed project is based upon several variables like demand, funding availability and CBP approval, it is recommended that the proposed customs facility be phased in Stage 2 (2020-2024) of the airport's capital improvement program to allow for future planning, design and coordination activities.



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Figure 1 Proposed Customs Facility-Alternative 1A
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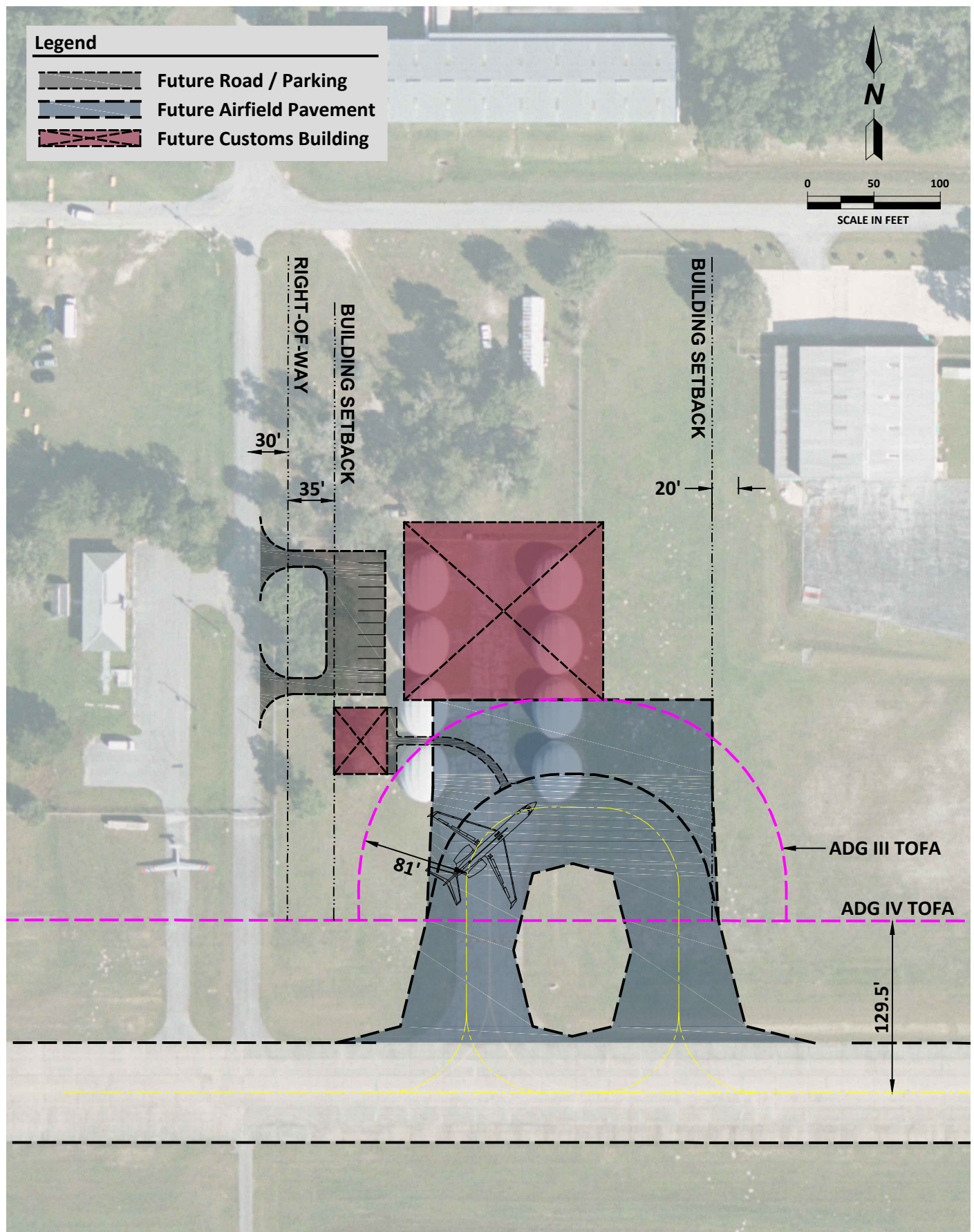
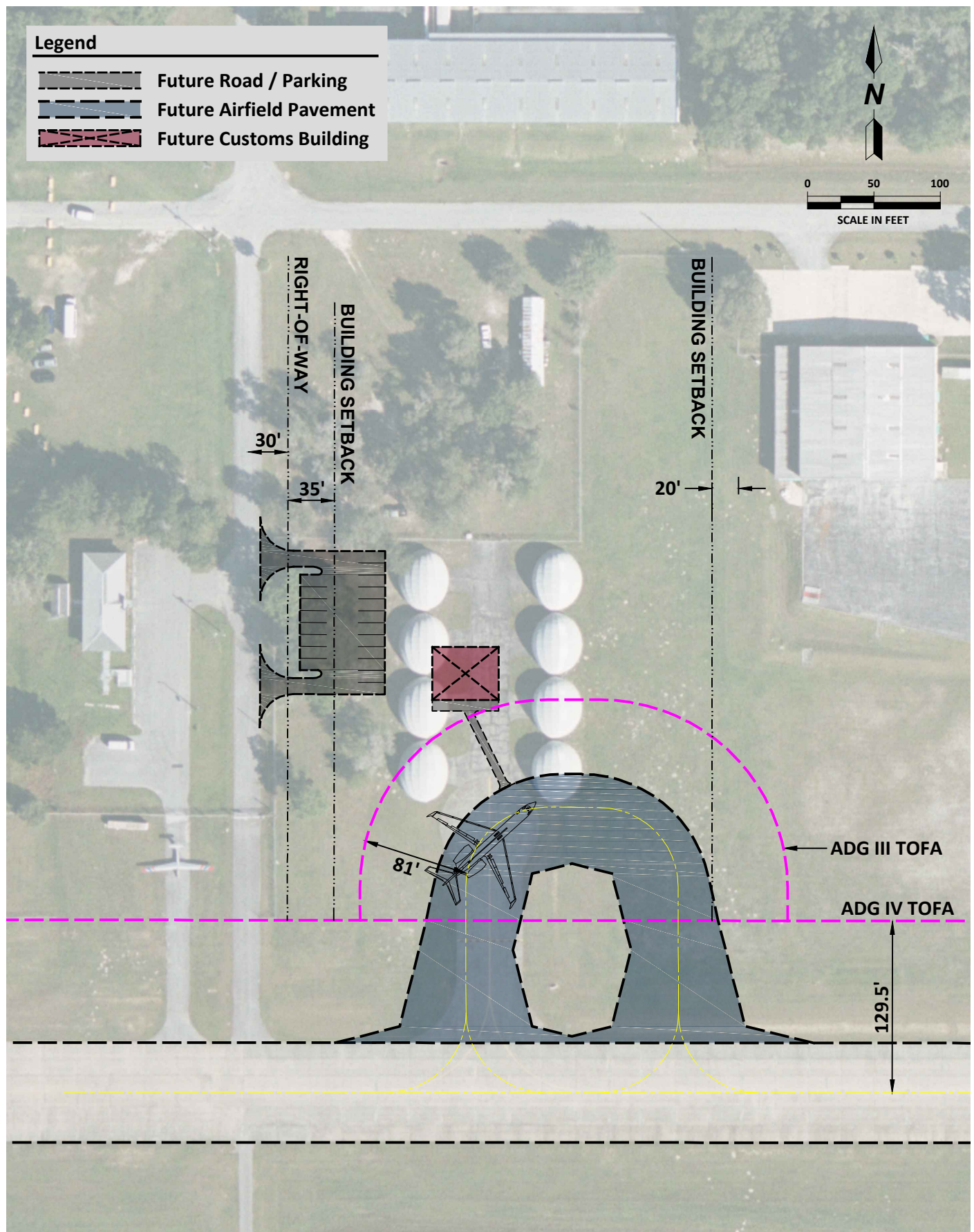
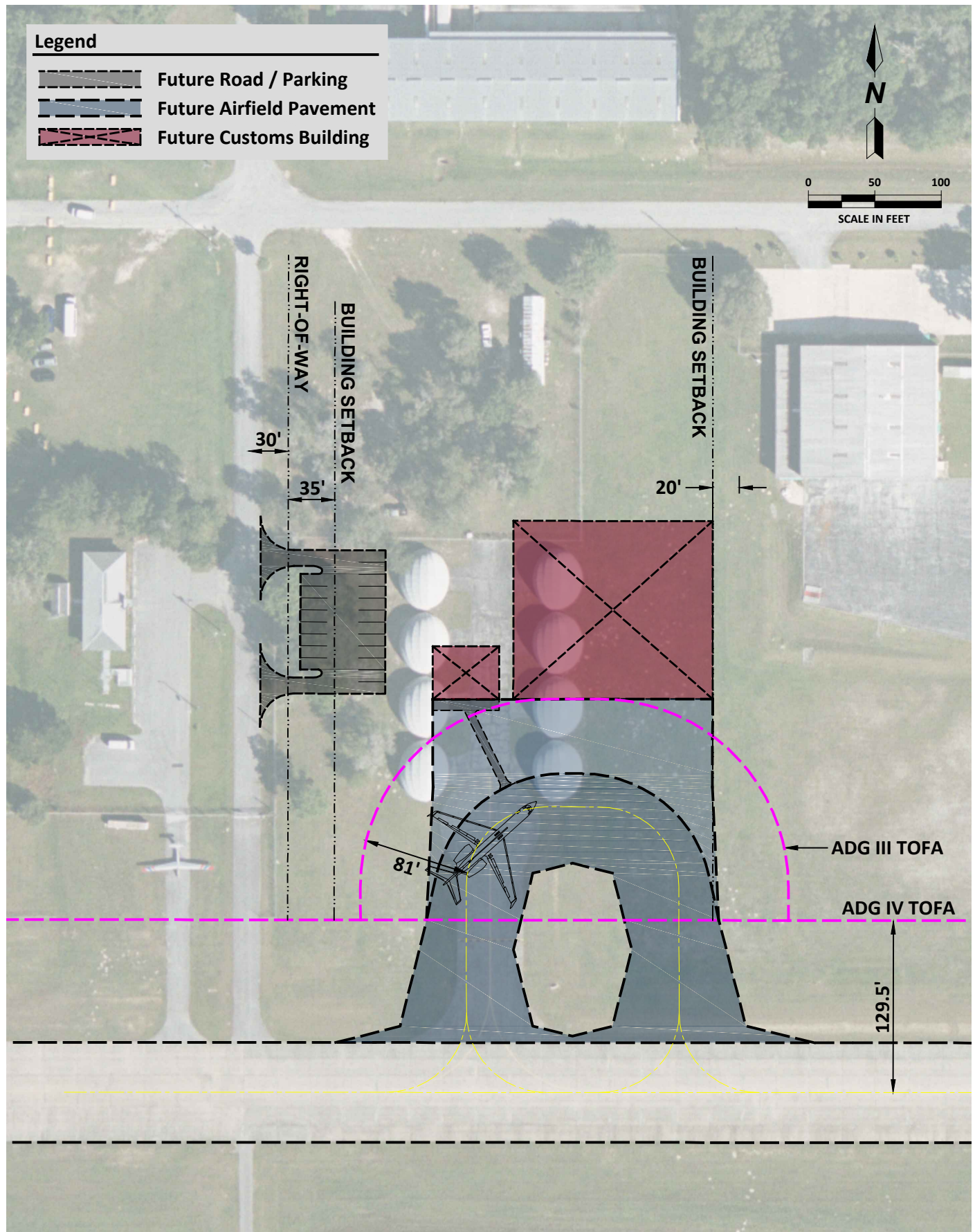


Figure 2 Proposed Customs Facility-Alternative 1B
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Figure 3 Proposed Customs Facility-Alternative 2A
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Figure 4 Proposed Customs Facility-Alternative 2B
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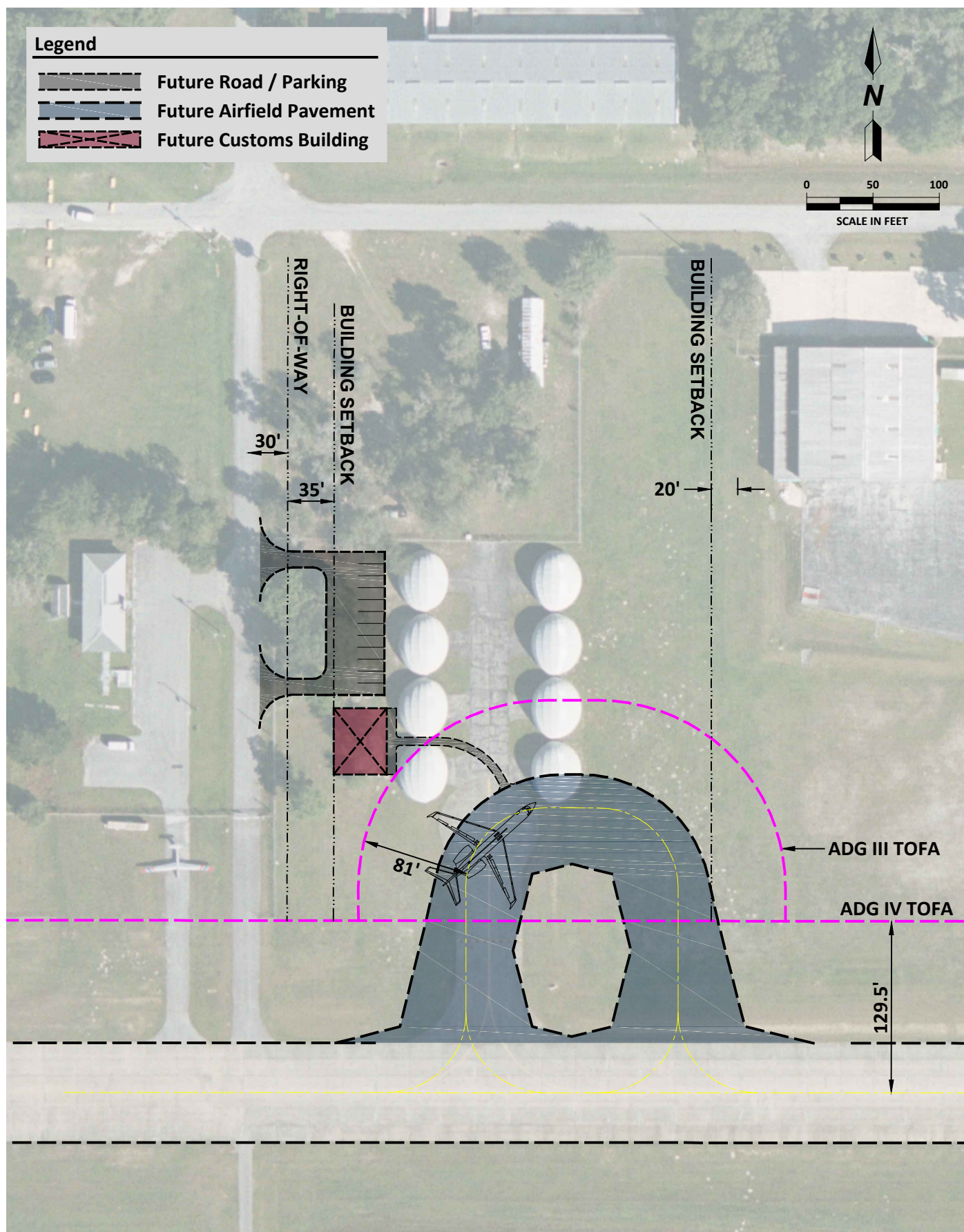


Figure 5 Preferred Customs Facility
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Table 1
Preliminary Opinion of Construction Cost - Alternative 1A

Item Description	Quantity	Unit	Unit Price	Cost
General Conditions				
Mobilization	1	LS	\$90,480.00	\$90,480.00
Maintenance of AOA Traffic	1	LS	\$18,100.00	\$18,100.00
Demolition				
Remove Existing Dome Hangars	8	EA	\$7,000.00	\$56,000.00
Remove Fence	827	LF	\$7.00	\$5,789.00
Remove Existing Pavement	2190	SY	\$8.00	\$17,520.00
Building				
Customs Facility	2000	SF	\$225.00	\$450,000.00
8" PVC Water (Fire) Service	325	LF	\$50.00	\$16,250.00
Fire Department Connection (FDC)	1	EA	\$1,800.00	\$1,800.00
Double Detector Check Valve Assembly	1	EA	\$3,500.00	\$3,500.00
1 1/2" PVC Water Service	30	LF	\$21.00	\$630.00
1 1/2" RPZ	1	EA	\$1,500.00	\$1,500.00
6" PVC Sanitary	325	LF	\$35.00	\$11,375.00
Cleanout	3	EA	\$100.00	\$300.00
Taxilane				
P-401 Asphalt Surface Course	875	TON	\$115.00	\$100,625.00
P-211 Lime Rock Base Course	720	CY	\$80.00	\$57,600.00
P-152 Unclassified Excavation	1513	CY	\$7.00	\$10,591.00
D-701 Storm Drain Pipe	300	LF	\$70.00	\$21,000.00
D-751 Drainage Structures	3	EA	\$7,500.00	\$22,500.00
F-162 Chain Link Fence	624	LF	\$20.00	\$12,480.00
High-Mast Lighting	2	EA	\$18,000.00	\$36,000.00
Parking Lot				
P-401 Asphalt Surface Course	90	TON	\$115.00	\$10,350.00
P-211 Lime Rock Base Course	125	CY	\$80.00	\$10,000.00
P-152 Unclassified Excavation	210	CY	\$7.00	\$1,470.00
P-610 Sidewalk	110	SY	\$32.00	\$3,520.00
D-701 Storm Drain Pipe	200	LF	\$50.00	\$10,000.00
D-751 Drainage Structures	4	EA	\$3,000.00	\$12,000.00
High-Mast Lighting	2	EA	\$16,000.00	\$32,000.00
Construction Subtotal:				\$1,013,380.00
15% Contingency:				\$152,007.00
Construction Total:				\$1,165,387.00

Table 2
Preliminary Opinion of Construction Cost – Alternative 1B

Item Description	Quantity	Unit	Unit Price	Cost
General Conditions				
Mobilization	1	LS	\$100,570.00	\$100,570.00
Maintenance of AOA Traffic	1	LS	\$20,110.00	\$20,110.00
Include Construction Items in Alt. 1A	1	LS	\$904,800.00	\$904,800.00
Apron				
P-401 Asphalt Surface Course	430	TON	\$115.00	\$49,450.00
P-211 Lime Rock Base Course	355	CY	\$80.00	\$28,400.00
P-152 Unclassified Excavation	720	CY	\$7.00	\$5,040.00
High-Mast Lighting	1	EA	\$18,000.00	\$18,000.00
Construction Subtotal:				\$1,126,370.00
15% Contingency:				\$168,956.00
Construction Total:				\$1,295,326.00

Table 3
Preliminary Opinion of Construction Cost - Alternative 2A

Item Description	Quantity	Unit	Unit Price	Cost
General Conditions				
Mobilization	1	LS	\$90,480.00	\$90,480.00
Maintenance of AOA Traffic	1	LS	\$18,100.00	\$18,100.00
Demolition				
Remove Existing Dome Hangars	8	EA	\$7,000.00	\$56,000.00
Remove Fence	769	LF	\$7.00	\$5,383.00
Remove Existing Pavement	2190	SY	\$8.00	\$17,520.00
Building				
Customs Facility	2000	SF	\$225.00	\$450,000.00
8" PVC Water (Fire) Service	300	LF	\$50.00	\$15,000.00
Fire Department Connection (FDC)	1	EA	\$1,800.00	\$1,800.00
Double Detector Check Valve Assembly	1	EA	\$3,500.00	\$3,500.00
1 1/2" PVC Water Service	30	LF	\$21.00	\$630.00
1 1/2" RPZ	1	EA	\$1,500.00	\$1,500.00
6" PVC Sanitary	300	LF	\$35.00	\$10,500.00
Cleanout	3	EA	\$100.00	\$300.00
Taxilane				
P-401 Asphalt Surface Course	875	TON	\$115.00	\$100,625.00
P-211 Lime Rock Base Course	720	CY	\$80.00	\$57,600.00
P-152 Unclassified Excavation	1578	CY	\$7.00	\$11,046.00
D-701 Storm Drain Pipe	300	LF	\$70.00	\$21,000.00
D-751 Drainage Structures	3	EA	\$7,500.00	\$22,500.00
F-162 Chain Link Fence	557	LF	\$20.00	\$11,140.00
High-Mast Lighting	2	EA	\$18,000.00	\$36,000.00
Parking Lot				
P-401 Asphalt Surface Course	105	TON	\$115.00	\$12,075.00
P-211 Lime Rock Base Course	150	CY	\$80.00	\$12,000.00
P-152 Unclassified Excavation	260	CY	\$7.00	\$1,820.00
P-610 Sidewalk	90	SY	\$32.00	\$2,880.00
D-701 Storm Drain Pipe	200	LF	\$50.00	\$10,000.00
D-751 Drainage Structures	4	EA	\$3,000.00	\$12,000.00
High-Mast Lighting	2	EA	\$16,000.00	\$32,000.00
Construction Subtotal:				\$1,013,399.00
15% Contingency:				\$152,010.00
Construction Total:				<u>1,165,409.00</u>

Table 4
Preliminary Opinion of Construction Cost - Alternative 2B

Item Description	Quantity	Unit	Unit Price	Cost
General Conditions				
Mobilization	1	LS	\$100,570.00	\$100,570.00
Maintenance of AOA Traffic	1	LS	\$20,110.00	\$20,110.00
Include Construction Items in Alt. 2A	1	LS	\$904,819.00	\$904,819.00
Apron				
P-401 Asphalt Surface Course	430	TON	\$115.00	\$49,450.00
P-211 Lime Rock Base Course	355	CY	\$80.00	\$28,400.00
P-152 Unclassified Excavation	720	CY	\$7.00	\$5,040.00
High-Mast Lighting	1	EA	\$18,000.00	\$18,000.00
Construction Subtotal:				\$1,126,389.00
15% Contingency:				\$168,958.00
Construction Total:				<u>\$1,295,347.00</u>