

CHAPTER F.**Development Program**

INTRODUCTION. The purpose of the Development Program is to establish a strategy for implementing the necessary improvements that satisfy the forecast aviation demand at Arlington Municipal Airport, while also providing guidance on the requirements to demonstrate the Airport's ability to fund the identified improvement projects. The overall concept is to maximize the opportunities to receive federal and state grants, within the context of, and in recognition of, the amount of local funds available for capital needs.

Implementation Schedule and Project List

A list of pro-active capital improvement projects has been assembled from the facility requirements documentation previously presented. The project list has been coordinated with airport management and the FAA. The projects have been placed into three phases: short-range (0-5 years), intermediate-range (6-10 years), and long-range (11-20 years). The short-range projects are listed in priority order by year; the intermediate- and long-range projects are listed in priority order without year designators. Arlington Municipal Airport's phased project list and associated costs are presented in Tables F1, F2, and F3 in this chapter. It should be noted that it is anticipated that the project schedule will invariably alter as local and Federal priorities evolve over the coming months and years.

Cost Estimates

Cost estimates for individual projects have been prepared for improvements that have been identified as necessary during the 20-year planning period. Facility costs have been formulated using unit prices extended by the size of the particular improvement project and tempered with specific considerations related to the region, the Airport, and the development site. That being said, these estimates are intended for planning purposes only and should not be construed as construction cost estimates, which can only be compiled following the preparation of detailed engineering plans and specifications. All cost estimates presented in this report are based on 2010 costs.

The estimates have been categorized by the total cost for each facility requirement, that part of the total cost anticipated to have funding provided by the FAA, that part eligible for funding through State Apportionment, and that portion to be borne locally. In addition to the City of Arlington funds, the local share can include sources such as state or local economic development funds,



regional commissions and organizations, and other units of local government, as well as funding from private individuals or businesses.

As presented in the respective tables, the Development Plan cost estimates for the 20-year planning period amount to approximately \$101,366,719. The anticipated FAA share is some \$31,560,792; the State Apportionment share is approximately \$1,221,482; and, the remainder has been classified as local financing. Of the local financing, approximately \$47,050,900 is projected to be spent on private projects that will generate revenue and are typically financed by tenants or private developers (in some cases, where it is justified by projected revenue, these projects might be financed by revenue bonds or special tax assessments).

As identified in the following tables, the Federal share includes expenditures of \$11,378,6778 during the first five-year time period, \$10,446,509 during the second five-year time period, and \$9,735,505 during the last ten-year time period. This equals an average expenditure of approximately \$1,578,140 per year in Federal monies to fund the 20-year development plan.

Of the State Apportionment share of funds needed to develop Arlington Municipal Airport, approximately \$1,221,482 are required during the first five-year time period. No projects in the remaining time periods have been identified for funding using the State Apportionment funds.

Of the local share, approximately \$12,181,810 is required during the initial five-year time period, \$23,343,840 during the second five-year time period, and approximately \$32,856,295 during the final ten-year time period. For the entire 20-year planning period, an estimated \$3,419,097 per year will be required from Local funding mechanisms. Of those projects identified as generating revenue and potentially financed by private third-party sources, approximately \$4,102,700 is required in the first phase, \$13,201,200 in the second phase, and \$29,747,000 in the third phase, which equals approximately \$2,352,545 per year.

Historical Register Properties Project Assessment

An assessment was made on ten proposed development projects in an effort to understand the potential effect they might have on the Naval Auxiliary Air Station Arlington Historic District resources. The assessment included specific recommendations for each project and general recommendations for preserving the integrity of the historic district. Seven of the ten projects reviewed affected resources that contribute to the historic district. The complete assessment is contained in Appendix Seven. A summary of the projects, the anticipated impacts, and recommendations are included in Table F4 entitled *HISTORICAL REGISTER PROPERTIES PROJECT ASSESSMENT*.



Table F1
PHASE I (0-5 YEARS) DEVELOPMENT PLAN PROJECT COSTS

Project Description	Note	Total Costs	Federal ^(a)	State Apportioned	Local ^(b)
2011 Projects					
A.1 Purchase Property Within Runway 34 RPZ (Approximately 6.2 Acres), Phase I	1,2	\$635,000	\$603,250		\$31,750
A.2 Runway 16/34 Crack Sealing		\$50,000	\$47,500		\$2,500
A.3 Renovate A Hangar		\$515,000			\$515,000
A.4 Reconstruct Taxilanes East "K", East & West "J"	2	\$330,145	\$313,638		\$16,507
A.5 Install Directory Signage	2	\$77,000			\$77,000
A.6 Install Security Lighting on East Ramp	2	\$192,275			\$192,275
A.7 Building Improvements	2	\$40,000			\$40,000
A.8 Install Sewer Stub from Bayliner Parking Lot Across 59th Drive to Navy Hangar	2	\$60,000			\$60,000
A.9 Install Glider Operations Area (GOA) Advisory Signage on Taxiways "A1" and "A4", and Construct GOA Threshold Markings		\$43,100	\$40,945		\$2,155
Sub-Total/2011 Projects		\$1,942,520	\$1,005,333	\$0	\$937,787
2012 Projects					
A.10 Purchase Property Within Runway 34 RPZ (Approximately 6.2 Acres), Phase II	1	\$650,000	\$150,000	\$467,500	\$32,500
A.11 Conduct Historic Properties Programmatic Agreement Between FAA and DAHP		\$50,000	\$47,500		\$2,500
A.12 AIP Engineering (Preliminary Engineering)		\$70,000	\$66,500		\$3,500
A.13 Engineer B Hangar Renovations		\$20,000			\$20,000
A.14 Install Electric Gate North of Flying J Café		\$50,000			\$50,000
A.15 Install Sewer Stub to AIR		\$60,000			\$60,000
A.16 Extend 51st Avenue, Including Security Fencing, Airport Trail Re-alignment, and Utilities Extension (Phase I)		\$1,300,000			\$1,300,000
A.17 Install Directory Signage		\$60,000			\$60,000
A.18 Building Improvements		\$40,000			\$40,000
A.19 Design Engineering for Mound Area Taxilane Reconstruction		\$100,000	\$95,000		\$5,000
Sub-Total/2012 Projects		\$2,400,000	\$359,000	\$467,500	\$1,573,500

Notes: ^(a) Eligible for FAA Airport Improvement Program (AIP), Non-Primary Entitlement (NPE), and Discretionary Grants.
^(b) Sponsor Match or Private Funding.
¹ Projects currently identified on the Airport Capital Improvement Plan (ACIP).
² Project completed.
 Cost estimates, based upon 2010 data, are intended for preliminary planning purposes and do not reflect a detailed engineering evaluation.



Table F1
PHASE I (0-5 YEARS) DEVELOPMENT PLAN PROJECT COSTS (continued)

Project Description	Note	Total Costs	Federal ^(a)	State Apportioned	Local ^(b)
2013 Projects					
A.20 AIP Engineering		\$333,269	\$316,606		\$16,663
A.21 Construct Airport Perimeter Road From North Hangar Area to 188th Avenue		\$1,221,700	\$1,160,615		\$61,085
A.22 Remove Old Perimeter Road North of Runway 16		\$34,400	\$32,680		\$1,720
A.23 Re-align Airport Trail From 59th Avenue to Cemetery Road, and From Near 51st Drive to 188th Avenue, Including Security Fencing		\$378,900			\$378,900
A.24 Overlay 195th Street		\$128,737			\$128,737
A.25 Overlay 59th Avenue Between 195th and 188th Avenues		\$205,632			\$205,632
A.26 Reconstruct Mound Area Taxilane		\$381,420	\$362,349		\$19,071
A.27 Conduct Wildlife Hazard Assessment	¹	\$120,000	\$120,000		
A.28 Install Low Intensity Taxiway Lighting (LITL) and Lighted Signs on Taxiway "A", Phase I	¹	\$100,000	\$30,000	\$65,000	\$5,000
Sub-Total/2013 Projects		\$2,904,058	\$2,022,250	\$65,000	\$816,808
2014 Projects					
A.29 Relocate Runway 34 Threshold 87 Feet to the North, Including Medium Intensity Approach Lighting System (MALS)		\$489,100	\$464,645		\$24,455
A.30 Install Runway Alignment Indicator Lights (RAILS) on Runway 34		\$123,147	\$116,990		\$6,157
A.31 Extend Electrical Connection From Windcone for Fly-In Temporary Airport Traffic Control Tower (ATCT)		\$75,900	\$72,105		\$3,795
A.32 Install Runway 16 MALS		\$343,059	\$325,906		\$17,153
A.33 Relocate Runway 16 Localizer		\$520,300	\$494,285		\$26,015
A.34 Install Low Intensity Taxiway Lighting (LITL) and Lighted Signs on Taxiway "A", Phase II	¹	\$130,000	\$123,500		\$6,500
A.35 Overlay 59th Ave Between 188th to 172nd Avenues		\$632,362			\$632,362
A.36 Construct Executive/Corporate Hangars, Including Roadway Access and Parking		\$2,265,600			\$2,265,600
A.37 Construct Executive/Corporate Hangars Apron/Taxiways		\$618,100	\$587,195		\$30,905
Sub-Total/2014 Projects		\$5,197,568	\$2,184,626	\$0	\$3,012,942

Notes: ^(a) Eligible for FAA Airport Improvement Program (AIP), Non-Primary Entitlement (NPE), and Discretionary Grants.

^(b) Sponsor Match or Private Funding.

¹ Projects currently identified on the Airport Capital Improvement Plan (ACIP).

Cost estimates, based upon 2010 data, are intended for preliminary planning purposes and do not reflect a detailed engineering evaluation.



Table F1
PHASE I (0-5 YEARS) DEVELOPMENT PLAN PROJECT COSTS (continued)

Project Description	Note	Total Costs	Federal ^(a)	State AppORTioned	Local ^(b)
2015 Projects					
A.38 Phase I Extension of Waterline to Hangars		\$176,130			\$176,130
A.39 Construct 173rd ROW (Business Park)		\$2,470,000			\$2,470,000
A.40 AIP Preliminary Engineering		\$70,000	\$66,500		\$3,500
A.41 Install Sewer and Water Connections, and Restroom Facilities (Event Area)		\$300,000			\$300,000
A.42 Overlay 59th Drive Between 192nd and 188th Avenues		\$130,086			\$130,086
A.43 Construct Glider Tie-down Apron	³	\$2,924,500	\$2,778,275		\$146,225
A.44 Construct T-hangar		\$1,837,100			\$1,837,100
A.45 Construct T-hangar Apron/Taxiway		\$846,100	\$803,795		\$42,305
A.46 Construct Warbird Apron on Closed Runway (Overlay)		\$184,900			\$184,900
A.47 Purchase Emergency Generator for Airfield Lighting	¹	\$150,000	\$142,500		\$7,500
A.48 Install Low Intensity Taxiway Lighting (LITL) and Lighted Signs on Taxiway "A", Phase III	¹	\$650,508	\$111,500	\$506,482	\$32,526
A.49 Acquire Opal Property North of Airport (Approximately One Acre)	¹	\$350,000	\$150,000	\$182,500	\$17,500
A.50 Acquire Property South of Airport (Approximately 14.5 Acres)		\$2,175,000	\$1,755,000		\$217,500
A.51 Construct Performer Apron on Closed Runway (Overlay)		\$276,100			\$276,100
Sub-Total/2015 Projects		\$12,540,424	\$6,010,070	\$688,982	\$5,841,372
Total/Phase I (2011-2015)		\$24,984,570	\$11,378,778	\$1,221,482	\$12,181,810

Notes: ^(a) Eligible for FAA Airport Improvement Program (AIP), Non-Primary Entitlement (NPE), and Discretionary Grants.
^(b) Sponsor Match or Private Funding.
¹ Projects currently identified on the Airport Capital Improvement Plan (ACIP).
³ Project potentially has adverse effect on the National Register of Historic Places historic district resources.
 Cost estimates, based upon 2010 data, are intended for preliminary planning purposes and do not reflect a detailed engineering evaluation.



Table F2

PHASE II (6-10 YEARS) DEVELOPMENT PLAN PROJECT COSTS

Project Description	Note	Total Costs	Federal ^(a)	State Apportioned	Local ^(b)
B.1 Relocate Ultralight Runway (100 Feet x 1,500 Feet), Design	1	\$80,000	\$76,000		\$4,000
B.2 Relocate Ultralight Runway (100 Feet x 1,500 Feet), Construction	1	\$389,475	\$370,000		\$19,475
B.3 Install Medium Intensity Runway Lighting (MIRL) on Runway 11/29		\$439,826	\$417,835		\$21,991
B.4 Renovate B Hangar		\$431,766			\$431,766
B.5 Remove Closed Runway Pavement	3	\$507,296			\$507,296
B.6 Remove Runway 11/29 Shoulder Pavement	3	\$317,060			\$317,060
B.7 Install Taxiway "C" Lights and Lighted Signs		\$304,378	\$289,159		\$15,219
B.8 AIP Engineering		\$438,548	\$416,621		\$21,927
B.9 Construct Public Road From 59th Avenue to Cemetery Road		\$1,430,000			\$1,430,000
B.10 Extend 51st Avenue, Including Security Fencing, Airport Trail Re-alignment, and Utilities Extension, Phase II		\$2,990,000			\$2,990,000
B.11 Reconstruct Light Sport Aircraft Hangar Area	3	\$3,102,700			\$3,102,700
B.12 Construct Light Sport Aircraft Hangar Apron/Taxiways	3	\$6,379,900	\$6,060,905		\$318,995
B.13 Construct Light Sport Aircraft Multi-Purpose Hangar		\$1,702,600			\$1,702,600
B.14 Construct Light Sport Aircraft Apron/Taxiway		\$1,387,300	\$1,317,935		\$69,365
B.15 Runway Pavement Rehabilitation		\$259,200	\$246,240		\$12,960
B.16 Taxiway Pavement Rehabilitation		\$175,100	\$166,345		\$8,755
B.17 Roadway Pavement Rehabilitation		\$132,500	\$125,875		\$6,625
B.18 Phase II Extension of Waterline to Hangars		\$436,700			\$436,700
B.19 Construct Airport Business Park Roadways and Utilities		\$3,380,000			\$3,380,000
B.20 Construct Executive/Corporate Hangars, Including Parking		\$5,565,800			\$5,565,800
B.21 Construct Executive/Corporate Hangar Area Apron/Taxiway		\$384,800	\$365,560		\$19,240
B.22 Construct T-hangars		\$2,830,100			\$2,830,100
B.23 Construct T-hangars Apron/Taxiway		\$625,300	\$594,035		\$31,265
B.24 Hangars/Buildings Maintenance and Renovation		\$100,000			\$100,000
Total/Phase II (2016-2020)		\$33,790,349	\$10,446,509	\$0	\$23,343,840

Notes: ^(a) Eligible for FAA Airport Improvement Program (AIP), Non-Primary Entitlement (NPE), and Discretionary Grants.
^(b) Sponsor Match or Private Funding.
¹ Projects currently identified on the Airport Capital Improvement Plan (ACIP).
³ Projects potentially have adverse effect on the National Register of Historic Places historic district resources. Cost estimates, based upon 2010 data, are intended for preliminary planning purposes and do not reflect a detailed engineering evaluation.



Table F3

PHASE III (11-20 YEARS) DEVELOPMENT PLAN PROJECT COSTS

Project Description		Note	Total Costs	Federal ^(a)	State Apportioned	Local ^(b)
C.1	Runway Pavement Rehabilitation		\$259,200	\$246,240		\$12,960
C.2	Taxiway Pavement Rehabilitation		\$175,100	\$166,345		\$8,755
C.3	Roadway Pavement Rehabilitation		\$156,900			\$156,900
C.4	Apron Pavement Rehabilitation		\$1,561,100	\$1,483,045		\$78,055
C.5	Reconstruct Taxiway "B2" and Remove Old Pavement	³	\$135,500	\$128,725		\$6,775
C.6	Reconstruct Taxiway "D2" and Remove Old Pavement		\$178,400	\$169,480		\$8,920
C.7	Reconstruct Taxiway "B" and Remove Old Pavement		\$127,400	\$121,030		\$6,370
C.8	Reconstruct Taxiway "E" and Remove Old Pavement		\$254,800	\$242,060		\$12,740
C.9	Reconstruct Taxiway "A4" and Remove Old Pavement	³	\$172,900	\$164,255		\$8,645
C.10	Construct Airport Business Park Roadways and Utilities		\$2,340,000			\$2,340,000
C.11	Construct Large General Aviation Hangars, Including Roadway Access and Parking		\$5,804,600			\$5,804,600
C.12	Construct Large General Aviation Hangars Apron/Taxiways		\$580,400	\$551,380		\$29,020
C.13	Construct T-hangar		\$3,897,400			\$3,897,400
C.14	Construct T-hangar Apron/Taxiway		\$711,000	\$675,450		\$35,550
C.15	Construct Executive/Corporate Hangars, Including Parking		\$7,162,000			\$7,162,000
C.16	Construct Executive/Corporate Hangars Apron/Taxiway		\$395,200	\$375,440		\$19,760
C.17	Hangars/Buildings Maintenance and Renovation		\$100,000			\$100,000
C.18	Construct Fixed Base Operator (FBO) Hangar, Including Roadway Access and Parking		\$5,554,900			\$5,554,900
C.19	Construct FBO Apron and Taxiways		\$701,300	\$666,235		\$35,065
C.20	Extend Runway 16/34 754 Feet to the North, Including Relocation of the Precision Approach Path Indicator (PAPI) Lights and MAL S		\$2,682,800	\$2,548,660		\$134,140
C.21	Extend Taxiway "A" 395 Feet to the North and Construct Runup Area		\$624,500	\$593,275		\$31,225
C.22	Extend Taxiway "B" 754 Feet to the North and Construct Runup Area		\$720,600	\$684,570		\$36,030
C.23	Construct T-hangars, Including Parking		\$4,490,900			\$4,490,900
C.24	Construct T-hangar Apron/Taxiway		\$307,000	\$291,650		\$15,350
C.25	Construct Hangar, Including Roadway Access and Parking		\$2,837,200			\$2,837,200
C.26	Construct Hangar Apron/Taxiway		\$660,700	\$627,665		\$33,035
Total/Phase III (2021-2030)			\$42,591,800	\$9,735,505	\$0	\$32,856,295
GRAND TOTAL			\$101,366,719	\$31,560,792	\$1,221,482	\$68,381,945

Notes: ^(a) Eligible for FAA Airport Improvement Program (AIP), Non-Primary Entitlement (NPE), and Discretionary Grants.
^(b) Sponsor Match or Private Funding.
³ Projects potentially have adverse effect on the National Register of Historic Places historic district resources. Cost estimates, based upon 2010 data, are intended for preliminary planning purposes and do not reflect a detailed engineering evaluation.



Table F4

HISTORICAL REGISTER PROPERTIES PROJECT ASSESSMENT

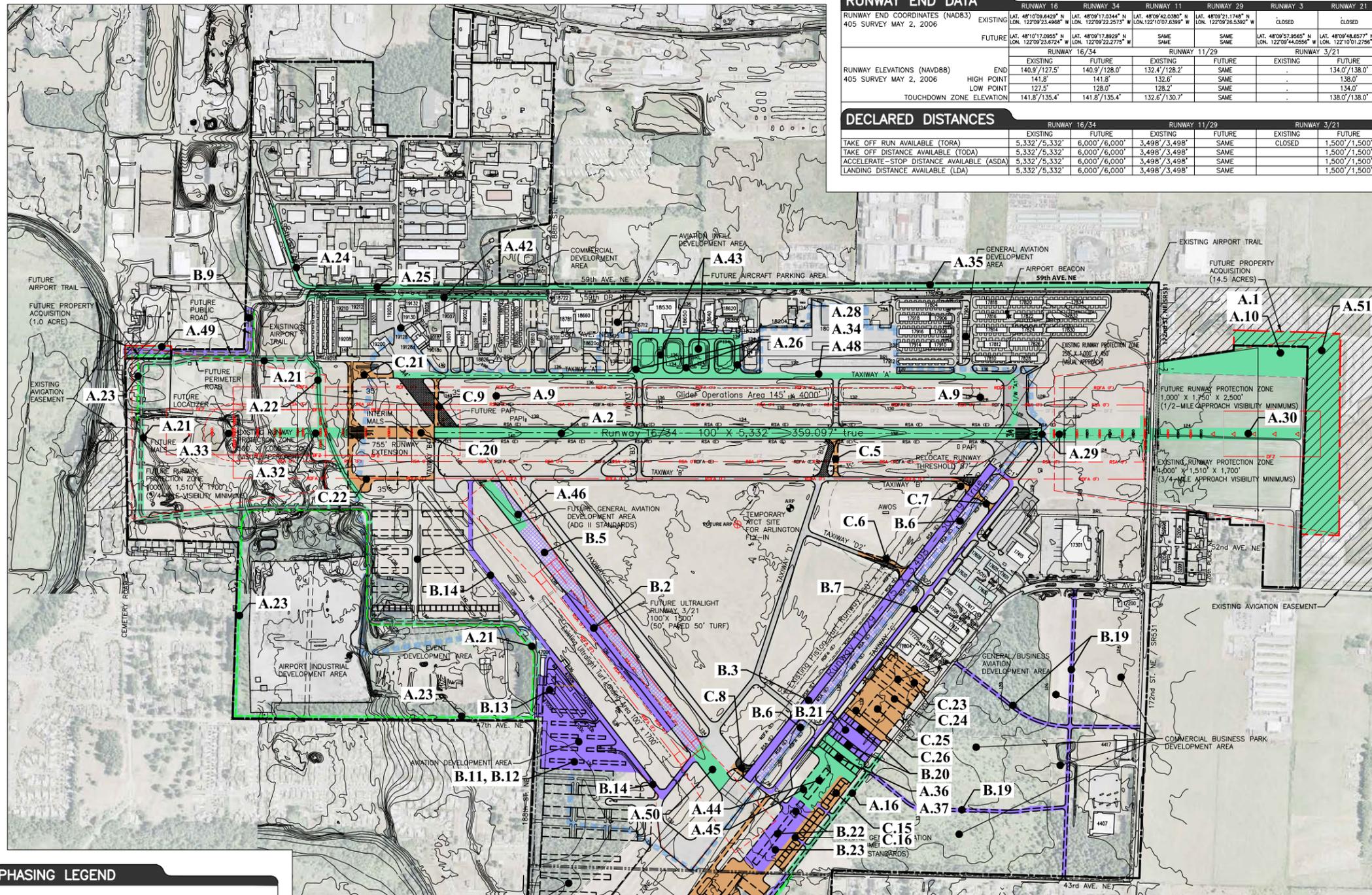
Project Description	Recommendation
A.28 Construct Airport Perimeter Road From North Hangar Area to 188 th Avenue	No change provided the road and construction activities do not alter the boresighting range, tiedowns, the bullet stop, and hardstands.
A.49 Construct Glider Tiedown Apron	Avoid alterations to the four fueling mounds and surrounding taxiways. Mitigation measures, as agreed upon by Washing State Department of Archaeology and Historic Preservation (DAHP), required if project proceeds as currently planned.
B.3 Remove Closed Runway Pavement	Avoid pavement removal. Mitigation measures, as agreed upon by DAHP, required if project proceeds as currently planned.
B.4 Remove Runway 11/29 Shoulder Pavement	Avoid pavement removal. Mitigation measures, as agreed upon by DAHP, required if project proceeds as currently planned.
B.9 Reconstruct Light Sport Aircraft Hangar Area	Avoid alterations to hardstand 14. Consider constructing hangar in different location. Mitigation measures, as agreed upon by DAHP, required if project proceeds as planned.
B.10 Construct Light Sport Aircraft Hangar Apron/Taxiways	Avoid alterations to hardstand 14. Consider redesign/relocation of project. Mitigation measures, as agreed upon by DAHP, required if project proceeds as planned.
B.12 Construct Light Sport Aircraft Apron/Taxiway	No action recommended.
C.5 Reconstruct Taxiway "B2" and Remove Old Pavement	Consider retaining Taxiway "B2", or as much original pavement as possible. Mitigation measures, as agreed upon by DAHP, required if project proceeds as planned.
C.8 Reconstruct Taxiway "E" and Remove Old Pavement	No action recommended.
C.9 Reconstruct Taxiway "A4" and Remove Old Pavement	Consider retaining Taxiway "A4", or as much original pavement as possible. Mitigation measures, as agreed upon by DAHP, required if project proceeds as planned.

Source: *Naval Auxiliary Air Station, Arlington Historic District Projects Assessment*, Northwest Archaeological Associates, Inc., February 2011.

Phasing Plan

The project list and cost estimates indicate the suggested project phasing during the short-, intermediate-, and long-range planning periods, which are also illustrated graphically on the following figure entitled *PHASING PLAN*. These are suggested schedules and variance from them may be necessary, especially during the latter time periods. Attention has been given to the first five years as being the most critical, and the scheduled projects outlined in that time frame should be adhered to as much as is possible and feasible. The demand for certain facilities, especially in the latter time frame, and the economic feasibility of their development, are the prime factors influencing the timing of individual project implementation. Care must be taken to provide for adequate lead-time for detailed planning and construction of facilities in order to meet aviation demands. It is also important to minimize the disruptive scheduling where a portion of the facility may become inoperative due to construction, and to prevent extra costs resulting from improper project scheduling.





RUNWAY END DATA

RUNWAY	EXISTING	FUTURE	RUNWAY	EXISTING	FUTURE	RUNWAY	EXISTING	FUTURE
16	48°10'09.642" N 122°09'23.468" W	48°10'17.065" N 122°09'23.674" W	34	48°09'17.044" N 122°09'22.257" W	48°09'17.829" N 122°09'22.275" W	11/29	SAME	SAME
11	48°09'42.030" N 122°10'07.839" W	SAME	29	48°09'21.748" N 122°09'26.592" W	SAME	3	CLOSED	CLOSED
21	CLOSED	CLOSED	3/21	48°09'57.956" N 122°09'44.059" W	48°09'48.657" N 122°09'40.219" W			

RUNWAY	EXISTING	FUTURE	RUNWAY	EXISTING	FUTURE	RUNWAY	EXISTING	FUTURE
16/34	140.9/127.5	140.9/128.0	11/29	132.4/128.2	SAME	3/21	134.0/138.0	134.0/138.0
405 SURVEY MAY 2, 2006	141.8	141.8		132.6	SAME		138.0	138.0
HIGH POINT	127.5	128.0		128.2	SAME		134.0	134.0
TOUCHDOWN ZONE ELEVATION	141.8/135.4	141.8/135.4		132.6/130.7	SAME		138.0/138.0	138.0/138.0

DECLARED DISTANCES

	EXISTING	FUTURE	EXISTING	FUTURE	EXISTING	FUTURE
TAKE OFF RUN AVAILABLE (TORA)	5,332/5,332	6,000/6,000	3,498/3,498	SAME	CLOSED	1,500/1,500
TAKE OFF DISTANCE AVAILABLE (TODA)	5,332/5,332	6,000/6,000	3,498/3,498	SAME	CLOSED	1,500/1,500
ACCELERATE-STOP DISTANCE AVAILABLE (ASDA)	5,332/5,332	6,000/6,000	3,498/3,498	SAME	CLOSED	1,500/1,500
LANDING DISTANCE AVAILABLE (LDA)	5,332/5,332	6,000/6,000	3,498/3,498	SAME	CLOSED	1,500/1,500

BUILDING LEGEND

NO.	DESCRIPTION	ELEVATION	NO.	DESCRIPTION	ELEVATION
1	ROTATING BEACON W/OBS. LIGHT (OL)	186.0@O.L.	17916	T-HANGAR	152.2'
2	BUILDING	161.9'	17918	T-HANGAR	152.4'
4407	WESTON	143.8'			
4417	ATHLETIC CLUB	152.5'	17928	NAVY HANGAR	171.8'
4700a	ULTRALIGHT T-HANGAR	149.5'	18008	NAVY HANGAR	168.6'
4700b	ULTRALIGHT T-HANGAR	151.5'	18204	AIRPORT OFFICE	143.2'
4700c	ULTRALIGHT T-HANGAR	149.5'	18218	NASA RESTAURANT	154.0'
4700d	ULTRALIGHT T-HANGAR	148.7'	18228	WILD BLUE AVIATION	181.1'
4700e	ULTRALIGHT T-HANGAR	150.5'	18306	OUT OF THE BLUE AVIATION	156.6'
4700f	BUILDING	155.4'			
5200a	CAR WASH	139.0'			
5200b	GAS STATION	151.0'	18530	GLASAIR	164.1'
5200d	RESTAURANT	150.0'			
5200e	MOTEL	152.0'	18620	UNIVERSAL AEROSPACE BUILDING	161.0'
5200f	BUILDING	145.0'	18620a	CASCADE AVIATION	158.2'
17200	HINKENS RV	139.5'	18640	UNIVERSAL AEROSPACE BUILDING	161.0'
17301	BOWMAN	157.6'	18650	NORTHWEST AVIATION CENTER	161.3'
17415	CONDO HANGAR	157.4'	18660	STODDARD HAMILTON	160.4'
17600	HANGAR	155.0'	18701	VACANT	159.8'
17601	HANGAR	155.0'	18712	AVIATION COVER, INC.	158.8'
17605	HANGAR	155.0'	18722	THE POINT CHURCH OFFICES	165.0'
17609	HANGAR	155.0'	18781	STODDARD HAMILTON	159.3'
17617	HANGAR	155.0'	18810	VACANT	169.4'
17620	HANGAR	155.0'	18820	AERONAUTICAL TESTING SERVICES	162.0'
17622	HANGAR	155.0'	18820a	WRANGELL ELECTRONICS	162.0'
17705	HANGAR	155.0'	18824	GPS SURVEYING	162.0'
17708	HANGAR	155.0'	18824a	FLYING J DELI	162.0'
17713	HANGAR	155.0'	18826	CASTLE AND COOKE/BIG SKY AVIATION	145.5'
17716	HANGAR	155.0'	18914	GOLD AERO	
17725	HANGAR	155.0'	18928	AVIATION INSPECTION & REPAIR	170.1'
17804	T-HANGAR	155.0'	19002	METAL MOTION	160.0'
17808	PUMP HOUSE	151.8'	19003	METAL MOTION	163.8'
17810	T-HANGAR	151.8'	19007	SUBERT & WALKER	161.2'
17812	T-HANGAR	158.1'	19010	VACANT	165.7'
17814	T-HANGAR	151.6'	19018	PRIVATE HANGAR	160.3'
17816	T-HANGAR	151.9'	19018a	PARA-PHERNALIA	160.3'
17818	T-HANGAR	151.7'	19026	ARLINGTON GLASS	161.5'
17820	T-HANGAR	150.5'	19124	GLOBAL MACHINE WORKS	161.7'
17822	T-HANGAR	150.5'	19128	CITY HANGAR	167.0'
17824	T-HANGAR	150.6'	19128a	CITY HANGAR	167.5'
17826	T-HANGAR	150.6'	19130	GLOBAL MACHINE WORKS	162.5'
17828	T-HANGAR	148.4'	19132	MAXWELL	163.8'
17830	T-HANGAR	146.0'	19200	PRIVATE HANGAR	172.5'
17832	T-HANGAR	146.0'	19203	CASCADE ENGINE SERVICE	158.2'
17834	T-HANGAR	146.0'	19203a	CONDO HANGARS	162.3'
17904	T-HANGAR	151.6'	19208	PRIVATE HANGAR	180.8'
17906	T-HANGAR	154.3'	19210	CONDO HANGARS	
17908	T-HANGAR	155.1'	19212	CONDO HANGARS	
17910	T-HANGAR	154.9'	19218	T-HANGAR	159.8'
17912	T-HANGAR	147.1'	19220	T-HANGAR	160.0'(E)
17914	T-HANGAR	152.0'	19222	T-HANGAR	160.0'(E)

REVISIONS & NOTES

NO.	DESCRIPTION	DATE

NOTES:

- THIS DRAWING REFLECTS PLANNING STANDARDS SPECIFIC TO THIS AIRPORT, AND IS NOT A PRODUCT OF DETAILED ENGINEERING DESIGN ANALYSIS. IT IS NOT INTENDED TO BE USED FOR CONSTRUCTION DOCUMENTATION OR NAVIGATION.
- COORDINATE/ELEVATION INFORMATION IS NAD83/NAVD88.

PHASING LEGEND

- PHASE A (0-5 YEARS)
- PHASE B (6-10 YEARS)
- PHASE C (11-20 YEARS)

AIRPORT INFORMATION

	EXISTING	FUTURE
AIRPORT ELEVATION (AMSL) NAVD 88	140.5'	140.9'
AIRPORT REFERENCE POINT (ARP) NAD 83	LAT. 48°09'38.69" N LON. 122°09'32.47" W	LAT. 48°09'43.24" N LON. 122°09'34.71" W
MEAN MAX. TEMPERATURE (HOTTEST MONTH)	75°F (JULY)	SAME
COMBINED WIND COVERAGE (16kt, 13kt, 10.5kt)	100%, 99.7%, 94.06%	SAME
MAGNETIC VARIATION (DATE)	17.01° (AUGUST 2010)	SAME
AIRPORT REFERENCE CODE	B-II	SAME
DESIGN AIRCRAFT	BEECH KING AIR B-200	SAME
NPIAS SERVICE LEVEL	GENERAL UTILITY II	SAME
TAXIWAY LIGHTING	NONE	SAME
TAXIWAY MARKING	CENTRALINE	SAME
AIRPORT & TERMINAL NAVAIDS	AWOS, BEACON	SAME
AIRPORT PROPERTY (ACRES)	1189.36	1196.56

17,001" ± MAG. DEC. -0.179" E ANNUAL CHANGE AUGUST 2010

GRAPHIC SCALE IN FEET

THE PREPARATION OF THIS DOCUMENT MAY HAVE BEEN SUPPORTED, IN PART, THROUGH THE AIRPORT IMPROVEMENT PROGRAM FINANCIAL ASSISTANCE FROM THE FEDERAL AVIATION ADMINISTRATION AS PROVIDED UNDER TITLE 49, UNITED STATES CODE, SECTION 47104. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THIS PLAN BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DESCRIBED THEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS.

RUNWAY INFORMATION

	EXISTING	FUTURE	EXISTING	FUTURE	EXISTING	FUTURE
APPROACH VISIBILITY MINIMUMS	VISUAL/3/4-MILE	3/4-MILE/1/2-MILE	VISUAL/VISUAL	SAME/SAME	EXISTING	VISUAL/VISUAL
FAR PART 77 APPROACH SLOPE	20:1/34:1	20:1/20:1	34:1/50:1	SAME/SAME		20:1/20:1
RUNWAY WIDTH X LENGTH	100' X 5,332'	100' X 6,000'	75' X 3,498'	SAME		100' X 1,500'
RUNWAY PAVEMENT TYPE	ASPHALT	SAME	ASPHALT	SAME		TURF/ASPHALT
TAXIWAY PAVEMENT TYPE	ASPHALT	SAME	ASPHALT	SAME		TURF/ASPHALT
PAVEMENT STRENGTH (IN 1000 LBS.)	1145,1500,2700T	SAME	325,340,590T	SAME		N/A
RUNWAY LIGHTING	MRL	SAME	NONE	SAME		NONE
RUNWAY MARKING	VISUAL/NPI	NPI/PRECISION	VISUAL/VISUAL	SAME		NONE
EFFECTIVE RUNWAY GRADIENT %	0.257	SAME	0.089	SAME		NOT SPECIFIED
RUNWAY LINE-OF-SITE	CRITERIA MET	SAME	CRITERIA MET	SAME	CLOSED	CRITERIA MET
PERCENT WIND COVERAGE (16kt, 13kt, 10.5kt)	99.71, 99.91, 100.0%	SAME	99.74, 99.87, 99.99%	SAME		NONE
VISUAL APPROACH AIDS	PAP/MALS/PAP	MALS/PAP/MALS/PAP	NONE	SAME		NONE
INSTRUMENT APPROACH AIDS	N06, GPS LOCALIZER	SAME	NONE	SAME		NONE
AIRPORT REFERENCE CODE	B-II	SAME	A-I (SMALL A/C)	SAME		A-I (SMALL A/C)
DESIGN AIRCRAFT	BEECH KING AIR B-200	B-115, KING AIR B-200, CESSNA 172	CESSNA 172	SAME		ULTRALIGHT (TYP.)
RUNWAY SAFETY AREA (RSA) WIDTH	150'	500'	120'	SAME		120'
RSA LENGTH BEYOND STOP END	240'/240'	1000'/1000'	240'/240'	SAME		240'/240'
RUNWAY OBJECT FREE AREA (OFA) WIDTH	500'	800'	250'	SAME		250'
OFA LENGTH BEYOND STOP END	240'/240'	1000'/1000'	240'/240'	SAME		240'/240'
OBSTACLE FREE ZONE (OFZ) WIDTH *	400'	SAME	SAME	SAME		SAME
OFZ LENGTH BEYOND STOP END *	200'/200'	SAME	SAME	SAME		SAME
RUNWAY CENTERLINE TO HOLD LINE	200'	250'	125'	SAME		125'

* No OFZ object penetrations

DRAWING LEGEND

	EXISTING	FUTURE
AIRPORT PROPERTY LINE	---	---
AIRPORT SECURITY FENCE	---	XX
AIRPORT BUILDINGS	---	---
AIRFIELD PAVEMENT	---	---
PAVED ROADS	---	---
AIRFIELD PAVEMENT REMOVED	---	---
RUNWAY PROTECTION ZONE	---	---
AVIATION EASEMENT	---	---
BUILDING RESTRICTION LINE	---	---
OBSTACLE FREE ZONE	---	---
OBSTACLE FREE ZONE	---	---
RUNWAY SAFETY AREA	---	---
RUNWAY OBJECT FREE AREA	---	---
FUEL STORAGE AREA	---	---
AIRPORT BEACON	---	---
LIGHTED WIND CONE & SEGMENTED CIRCLE	---	---
WIND CONE	---	---
PRECISION APPROACH PATH INDICATOR (PAPI)	---	---
RUNWAY END IDENTIFIER LIGHTS (REIL)	---	---
AIRPORT REFERENCE POINT (ARP)	---	---
NATIONAL HISTORIC PROPERTY BOUNDARY	---	---

Arlington Municipal Airport

Arlington, Washington

FIGURE F1
Phasing Plan

TULSA
1616 East 15th Street
Tulsa, Oklahoma 74120
918.585.8844

DENVER
1743 Wacoe Street, Suite 400
Denver, Colorado 80202
303.825.8844

DATE
October 2010

SCALE
1" = 1000'

SHEET NO.
1 of 1

Barnard Dunkelberg & Company

Capital Improvement Program (CIP)

To assist in preparation of the FAA's effort of providing grant funding to the most needed projects, a Capital Improvement Program (CIP) is kept on file, and up to date with the FAA, by airport staff. The purpose of the CIP is to provide a progressive projection of capital needs that can then be used in local and federal financial programming. From the FAA's perspective, the CIP provides a detailed listing of projects and costs that is critical for their use in establishing priorities and budgeting expenditures at Arlington Municipal Airport, when compared with the needs at other airports. From the City of Arlington's perspective, the CIP identifies improvement needs and allows budgeting/financial decisions to be made with a comprehensive understanding of financial implications. It should be noted that, although the CIP will be used for programming by the FAA, it does not represent a financial commitment on the part of either the FAA or the City of Arlington.

Financial Plan

Funding sources for the capital improvement program depend on many factors, including Airport Improvement Program (AIP) project eligibility, the ultimate type and use of facilities to be developed, debt capacity of the Airport, the availability of other financing sources, and the priorities for scheduling project completion. For planning purposes, assumptions were made related to the funding source of each capital improvement. The various funding options available for airport facility improvements are detailed in the following narrative.

Federal Sources of Capital Funding

AIP Entitlement Grants. The Federal Government initially embarked on a grant-in-aid program to promote the development of a system of airports shortly after World War II. Over the years, the program has been through several iterations and names. The current program was established by the Airport and Airway Improvement Act of 1982 and was, and still is, known as the (AIP). Funds obligated for the AIP are drawn from the Airport and Airway Trust fund, which is supported by the user fees, fuel taxes, and other similar aviation revenue sources.

The Wendell H. Ford Aviation Investment and Reform Act for the 21st Century (AIR-21), enacted in April 2000, established the first-ever Non-Primary Airports Entitlement (NPE) Program. AIR-21 sets aside grant funding for general aviation airports listed in the National Plan of Integrated Airport Systems (NIPAS) for pavement maintenance work. General aviation airports can each receive up to \$150,000 per year, based on the FAA's assessment of development needs over a five-year period. This funding set-aside is available for each federal fiscal year when Congress appropriates at least \$3.2 billion for the FAA's AIP grant program. For the convenience of airport sponsors, if a project is anticipated to cost in excess of \$150,000, participating airports can rollover (i.e., save) the NPE funds for up to four years, at which time the accumulated total of rolled-over funds can be used for larger



projects. These set-aside funds can be transferred to another airport and any unused funds at the end of the entitlement program revert to the FAA. Based upon these specified funding guidelines, the FAA currently provides grants on a 95%/5% federal/local split basis to general aviation airports such as Arlington Municipal Airport for public-use improvement projects.

AIP Discretionary Grants. The FAA also provides discretionary grants on a 95/5% basis to airports similar to Arlington Municipal Airport. This source of funding is over and above entitlement funding, and is provided to airports for projects that have a high federal priority for enhancing safety, security, and capacity of the airport and would be difficult to fund otherwise. The dollar amounts of individual grants vary and can be significant in comparison to entitlement funding. Discretionary grants are awarded at the FAA's sole prerogative. Discretionary grant applications are evaluated based on need, the FAA's project priority ranking system, and the FAA's assessment of a project's significance within the national airport and airway system.

Further, per the FAA, discretionary funds are those established in various set-asides, plus any appropriated funding remaining after all apportionment funds have been allocated. These funds are assigned at the discretion of the FAA Administrator, to support noise mitigation projects and the highest-priority development that will benefit the National Airspace System (NAS). These discretionary set-aside funds are designed to achieve specific funding minimums for the noise program, reliever airports, and the conversion of military airports. The Capacity/Safety/Security/Noise (CSSN) fund is to be used to preserve and enhance capacity, safety, and security and to carry out noise compatibility programs, and include Letters of Intent (LOIs). The noise or CSSN funds are used towards FAR Part 150 Noise Compatibility Programs (NCPs). The remaining discretionary funding is also referred to as "pure discretionary" and is assigned to projects at the administrator's discretion.

FAA Facilities & Equipment Funds. Within the FAA's budget appropriation, money is available in the Facilities and Equipment (F&E) Fund to purchase navigational aids and air safety-related technical equipment, including Airport Traffic Control Towers (ATCTs) for use at commercial service airports in the national airport system. Each F&E development project is evaluated independently through a cost/benefit analysis to determine funding eligibility and priority ranking. The qualified projects are totally funded (i.e., 100%) by the FAA, with the remaining projects likely being AIP eligible. In addition, the airport will apply for NAVAIDS maintenance funding through the F&E program for those facilities that are not F&E funded. It is possible that some of the proposed navigational aid-related development projects for Arlington Municipal Airport would qualify for F&E funding, if available.

The percentage costs borne by the FAA are subject to change depending upon current funding legislation and policy at the time of construction. The relationship between local and anticipated



federal funding as shown in this document is based on current FAA participation of 95% of the total project cost, but this ratio does vary according to some anticipated state funding participation on various projects. Before detailed planning on a particular project is developed, the funding structures and requirements should be identified to determine the current funding policies by the various entities.

State Sources of Capital Funding

State Grants. WSDOT Aviation does provide some grant money for airport projects and, as with many states, these funds have been primarily utilized to provide assistance on pavement “maintenance” oriented projects, such as crack seals and marking. However, in recent years, WSDOT Aviation has been able to fund additional items in excess of those that are pavement-maintenance related.

In working with the above-mentioned FAA NPE Program, WSDOT Aviation allows for several grant administration options in an effort to leverage these federal grant funds to the maximum extent possible. They are as follows:

- Federal grant agreements between WSDOT Aviation and FAA for state distribution to airport sponsors.
- Federal grant agreements between WSDOT Aviation and FAA for project completion by WSDOT Aviation work force, or by WSDOT Aviation, contracting for services.
- Federal grant agreements between WSDOT Aviation and FAA for state distribution to local agencies for project completion by local agency work force.

Local Sources of Capital Funding

Airport-Generated Revenue Financing. Typically, the revenues generated by airports are used to support the local match of eligible state and federal projects. However, some projects are either non-eligible for state or federal funding participation, or do not compete well for eligible funding. In these cases, the airport sponsor would be responsible for 100% of the project cost to implement the proposed development. As with many general aviation airports, generating the necessary cash flow to balance the operations and maintenance costs of an airport is a constant battle. Many airports often rely upon supplemental funding from a municipal or county government to assist with funding the capital needs of their facilities. Local governments often recognize the economic benefits an airport brings to the community and are, largely, amenable to such a funding strategy. It should be noted that the Airport will be competing with other essential capital improvement needs for scarce local funding resources.



Private Third Party Financing. Many airports use private third-party financing when the planned improvements will be primarily used by a private business or other organization. Such projects are not ordinarily eligible for federal funding. Projects of this kind typically include hangars, FBO facilities, fuel storage, exclusive aircraft parking aprons, industrial aviation-use facilities, non-aviation office/commercial/industrial developments, and various other projects. Private development proposals are considered on a case-by-case basis. Often, airport funds for infrastructure, preliminary site work, and site access are required to facilitate privately developed projects on airport property.

Implementation Strategy

This development plan is aggressive; the monetary commitments are significant. It is a solid plan that represents the Airport's best opportunity to meet its potential. However, the plan also represents a series of choices and alternatives for the Airport. The ultimate success of Arlington Municipal Airport does not rely upon the completion of every capital item programmed in the development plan. To meet realistic funding expectations, it may be necessary to weigh the items of the development plan in a thoughtful and global manner. In other words, to keep from being short-sighted in its choices, the City of Arlington may be required to selectively implement the capital items. Knowing the full scope of development possibilities enables the City to capitalize on opportunities, respond to financial realities, and select development items that are in harmony with the overall development plan.

The projects represented as potentially needed are based on forecast demand; only those projects that are required by actual demand will be proposed for construction. If the actual demand does not increase as rapidly as anticipated, a number of the proposed projects should be revised, delayed, or potentially eliminated. It should be noted that the level of FAA funding is governed by congressional appropriations to the AIP, and the amount dedicated to any one specific airport is determined by demonstrated need compared to need at other airports within the regional and national airport system. The object of this MP Update for Arlington Municipal Airport is to provide a flexible planning document useful for directing airport development that meets future aviation demand safely, efficiently, and properly as it occurs.

Summary

It is recognized that maintenance and operation expenses will increase as the Airport develops and more airport facilities are completed. Revenues generated by additional airport facilities should also increase and help offset increased maintenance and operation expenses. It is a worthy and feasible goal that operational expenses and revenues should balance at the Airport. This relationship should



be monitored closely so that future imbalances can be anticipated and provided for in the budgeting and capital improvement processes.

If aviation demands continue to indicate that improvements are needed, and, if the proposed improvements prove to be environmentally acceptable, the financial implications presented in this chapter are likely to be acceptable for both the FAA and the City of Arlington. However, it must be remembered that this is only a programming analysis and not a commitment on the part of the FAA or the City. If the cost of an improvement project is not financially feasible, it will not be pursued at that time.

