

6 Implementation Plan

The implementation plan incorporates airport improvements identified in the facility requirements analysis (Chapter 4) with the preferred alternative identified in the alternatives evaluation (Chapter 5) and the existing airport Capital Improvements Plan (CIP) to produce a plan for future project development. The plan balances funding constraints, project sequencing limitations, environmental processing requirements, agency approvals, and sponsor preferences. This chapter of the master plan is intended to become one of the primary references for decision-makers responsible for implementing plan recommendations.

The implementation plan is presented in three phases. Because conditions change from year to year, each phase represents a period rather than a calendar date. The first phase of the plan contains more detail than subsequent phases. Airport management should periodically review the appropriate time for development and adjust as needed to account for changing circumstances such as funding availability and actual demand for facilities and improvements. The 20-year development program totals \$171.2 million. A detailed explanation of available funding sources is presented in the Financial Feasibility Plan (Chapter 7).

- ➔ Phase I – Short term (0 to 5 years)
- ➔ Phase II – Medium term (5 to 10 years)
- ➔ Phase III – Long term (10 to 20 years)

The short-term projects in a master plan typically make up the 5-year CIP and represent the highest priority airport needs. Medium- and long-term development is a speculative range of projects beyond the CIP. These projects are less detailed to reflect the imprecise nature of long-range facility planning. Changes in airport conditions, such as unstable foundation soils or unexpected changes in funding priorities, require modifications to the implementation plan and should be verified with an updated master plan.

Projects identified as necessary in Chapter 4 that are not critical to airport function are included in the years beyond the master planning period (2033).

The preliminary project costs outlined in this chapter are order-of-magnitude “planning level” costs. Actual costs will differ based on the final project scope and design. The planning level cost estimates presented here, all in 2013 dollars, include:

- ➔ Construction (earthwork, paving, lighting)
- ➔ Construction administration
- ➔ Mobilization/de-mobilization
- ➔ Contingency costs

6.1 ADOT&PF's Responsibilities

When Airport Improvements Program (AIP) funding is used, airport projects must be closely coordinated with the FAA. In general, for each project ADOT&PF will be responsible for the following:

- Verifying the justification supporting the project and updating the planning-level cost estimates
- Design of the project and preparation of the environmental document and permit applications
- Preparing and issuing a bid package for project construction, management, and related construction services
- Preparing and submitting grant applications
- Project construction management, right-of-way acquisition or certification, and utility relocations or certifications
- Project administration, including FAA grant maintenance and closeout

6.2 Project Phasing

6.2.1 Near-Term Projects

Projects recommended for the near term include repair of the runway and development of new infrastructure such as M&O facilities, a parallel taxiway, and additional apron area. The sequencing of near-term projects is based on the most imminent needs of the airport and includes those projects necessary to develop mid- and long-term projects.

I-1 – Runway Repair.....\$3.6 million

Purpose

The western end of the runway has developed a large depression between the Runway 7 threshold and the end of the runway. This depression is large enough that Alaska Airlines has instructed their pilots to start their takeoff run from the Taxiway A intersection, effectively reducing the takeoff run available from 7,100 feet to 5,900 feet.

Scope

Excavate approximately 200 feet of the runway to a depth of 6 feet; reconstruct and repave; install MALSR and threshold lights; reapply striping and pavement markings

Prerequisites

None

Anticipated Environmental Document

Categorical Exclusion







Figure 6 - 1
Barrow Airport Master Plan Update

Phase I (0-5 years)

Near-term Projects:

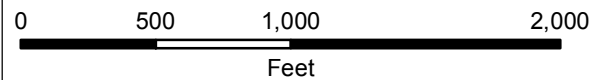
- I-1 - Runway Repair - \$3.6 million
- I-2 - M&O Facilities¹ - \$13.5 million
- I-3 - Apron Expansion - \$12.0 million
- I-4 - Stormwater Plan - \$0.1 million
- I-5 - South Side Parallel Taxiway - \$40 million

Total: \$69.2 million (2013 dollars)

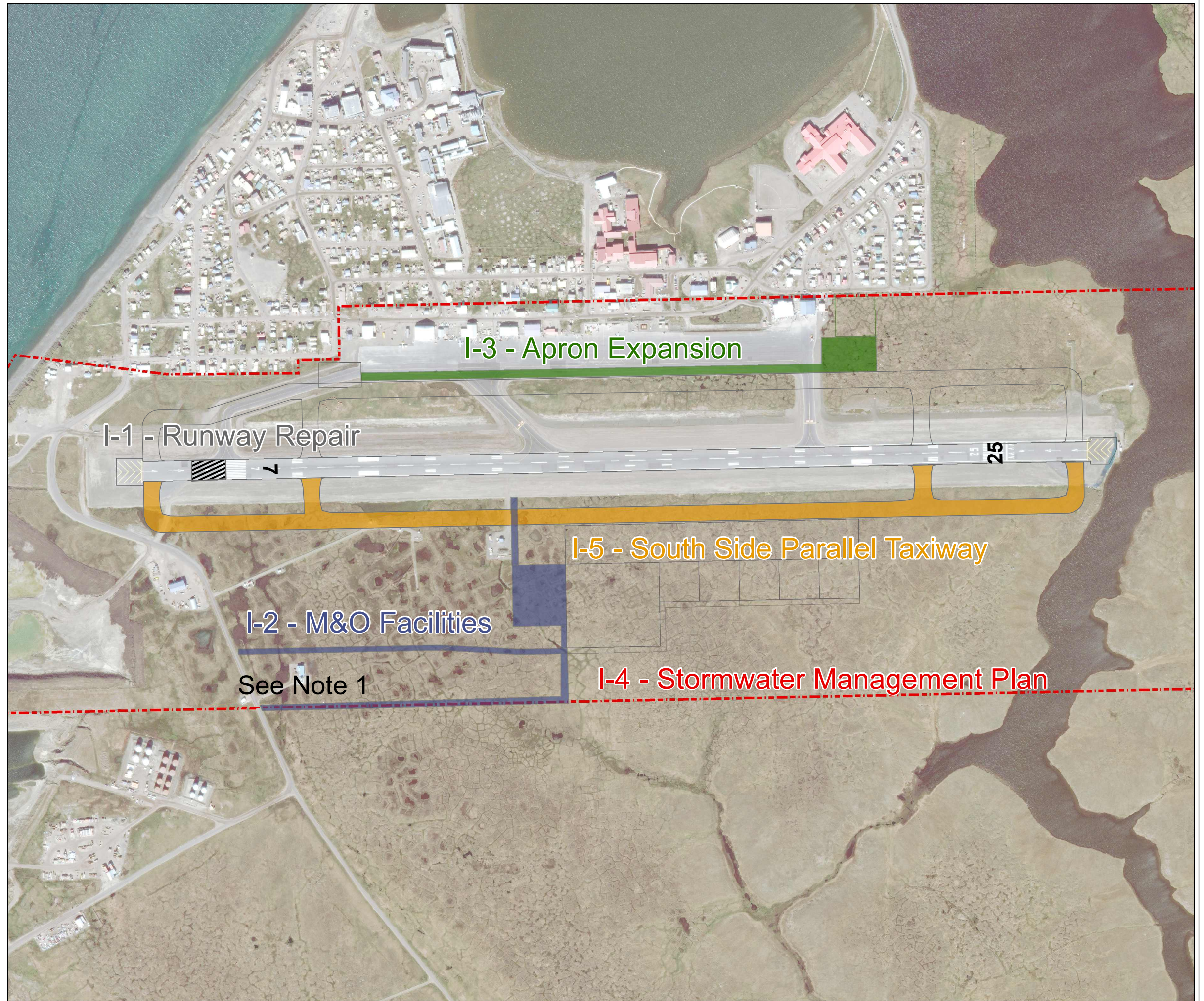
-  Runway Repair
-  Apron Expansion
-  Preferred Alternative Components
-  M&O Facilities & Access Road
-  Stormwater Management Plan
-  South Side Taxiway

Note 1:
 The location of the south side access road to be determined by funding source.

Data Sources:
 ADOT & PF
 North Slope Borough, Dept. of Planning
 Imagery date: July, 2012



Prepared For:



I-2 – Maintenance & Operations Facilities\$13.5 million

Purpose

New M&O facilities are needed in the near-term to accommodate changes in airport deicing regulations and the subsequent need for additional deicing chemical storage, new chemical applicator vehicles, and additional snow removal equipment.

ADOT&PF’s maintenance facility at BRW is currently at maximum capacity and situated on a parcel that does not allow expansion of the building. There are two primary drivers for expanding the M&O facility:

- ➔ As a result of new deicing regulations, ADOT&PF must now stockpile a liquid deicing agent and specialized equipment for applying the new agent.
- ➔ Additional maintenance efforts will be needed in order to maintain a clear runway surface for the design aircraft (737-700 in the near term and 737-800 in the long term) during inclement weather. This will require additional sand and vehicle storage facilities.

Scope

Construct a 184,000 square foot pad on the south side of the runway, with an access road to the runway and an access road from Emaiksoun Road. Construct a new 11,500 square foot Aircraft Rescue and Firefighting and Snow Removal Equipment Building (ARFF/SREB), along with a sand storage facility and a chemical storage facility with a capacity of 10,000 gallons.

Prerequisites

None

Anticipated Environmental Document

Environmental Assessment

I-3 – Apron Expansion\$12.0 million

Purpose

Expand the existing apron to the south and east to accommodate aircraft wingtip clearances on the apron and a newly designated lease lot (90,000 square feet). This is also the first step in the process of shifting the BRL 110 feet south (Project III-4).

Scope

Construct 205,000 square feet of new apron, including lighting and markings, along the south edge of the existing apron; construct 135,000 square feet of new apron, including lighting and markings, at the eastern edge of the existing apron.

Prerequisites

None

Anticipated Environmental Document

Categorical Exclusion

I-4 – Stormwater Management Plan \$100,000

Purpose

Develop a stormwater management plan in anticipation of future construction projects and federal water quality regulations.

Scope

Develop a stormwater management plan for the airport property.

Prerequisites

None

Anticipated Environmental Document

N/A

I-5 – South Side Parallel Taxiway \$40 million

Purpose

The FAA has indicated that any aviation development on the south side of the runway is going to require a full-length parallel taxiway in order to allow BRW to maintain the current approach minimums. The DMVA has indicated that they could begin development of joint USCG/DMVA facilities on the south side as soon as 2016. Therefore, a parallel taxiway is needed in the near term to accommodate this development and facilitate additional industrial development at the airport.

Scope

Construct a full-length parallel taxiway on the south side of the runway, including connecting taxiways, lights, signs, and markings. Relocate the glide slope indicators. Extend perimeter security fencing on the south side of the airport towards the east.

Prerequisites

None

Anticipated Environmental Document

Environmental Assessment

Figure 6 - 2
Barrow Airport Master Plan Update

Phase II (6-10 years)

Mid-term Projects:

- II-1 - South Side Apron - \$16.0 million
- II-2 - Master Plan & ALP Update - \$1.5 million
- II-3 - ARFF/SREB Expansion - \$1.5 million
- II-4 - Runway Repaving - \$12 million

Total: \$31 million (2013 dollars)

Preferred Alternative Components
 South Side Apron & Access Road
 Runway Repaving
 Airport Boundary
 Phase I Projects


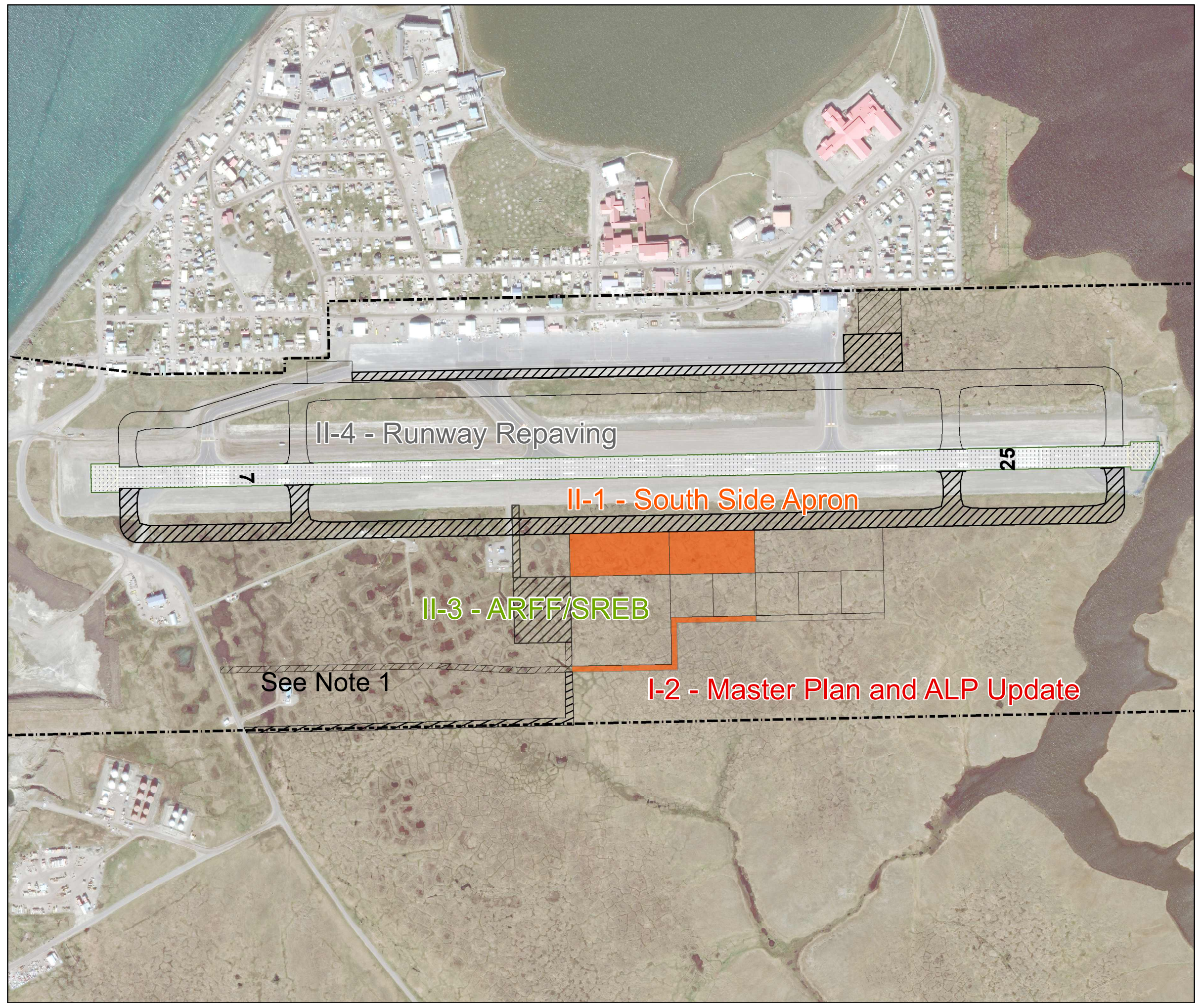
Note 1:
 The location of the south side access road to be determined by funding source.

Data Sources:
 ADOT & PF
 North Slope Borough, Dept. of Planning
 Imagery date: July, 2012

0 500 1,000 2,000
 Feet

N

Prepared For:

6.2.2 Medium-Term Projects

II-1 – South Side Apron & Access Road\$16 million

Purpose

Develop an apron on the south side of the runway to facilitate the development of new lease lots.

Scope

Construct a 9-acre paved apron, including lighting and markings, on the south side of the runway. Extend the access road constructed under Project I-2 to the new apron.

Prerequisites

I-2

Anticipated Environmental Document

Environmental Assessment

II-2 – Airport Master Plan and Airport Layout Plan Update.....\$1.5 million

Purpose and Scope

Perform an aeronautical survey and update the Airport Layout Plan to reflect changes in the airfield. Update the airport master plan to validate or revise the mid- and long-range programs.

Prerequisites

None

Anticipated Environmental Document

N/A

II-3 – ARFF/SREB Expansion\$1.5 million

Purpose

Construct a fourth bay on the ARFF/SREB to accommodate additional equipment.

Scope

Construct a new 20' x 80' bay on the ARFF/SREB.

Prerequisites

I-2

Anticipated Environmental Document

Categorical Exclusion

II-4 – Runway Repaving.....\$12.0 million

Purpose

The runway pavement will require replacement near the end of the medium term.

Scope

Repave the runway and apply new pavement markings; apply pavement markings and lights on the south side parallel taxiway for use as a temporary runway during repaving

Prerequisites

I-5

Anticipated Environmental Document

Categorical Exclusion

6.2.3 Long-Term Projects

III-1 – South Side Apron Expansion\$10.5 million

Purpose

Continue development of an apron on the south side of the runway to facilitate lease lot development.

Scope

Construct a 9-acre paved apron on the south side of the runway, including lighting and markings adjacent to the apron constructed under Project II-1; extend the access road completed under Project II-1.

Prerequisites

II-1

Anticipated Environmental Document

Environmental Assessment

III-2 – North Side Parallel Taxiway.....\$40 million

Purpose

Construct a full-length parallel taxiway on the north side of the runway to allow a shift of the BRL.

Scope

Construct a full-length parallel taxiway on the north side of the runway, including connecting taxiways, lights, signs, and markings; relocate the segmented circle; remove the existing Taxiways A, B, and C.

Prerequisites

None

Anticipated Environmental Document

Environmental Assessment












Figure 6 - 3
Barrow Airport Master Plan Update

Phase III (10-20 years)

Long-term Projects:

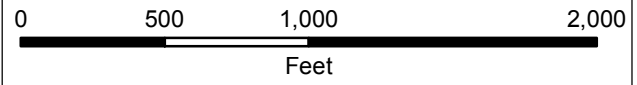
- III-1 - South Side Apron¹ - \$10.5 million
- III-2 - North Side Parallel Taxiway - \$40 million
- III-3 - Apron Repaving - \$5.7 million
- III-4 - GA Tie-downs - \$1.3 million
- III-5 - BRL Shift - \$ N/A
- III-6 Ahkovak Street Realignment and Lease Lot Expansion (North) - \$13.5 million

Total: \$71 million (2013 dollars)

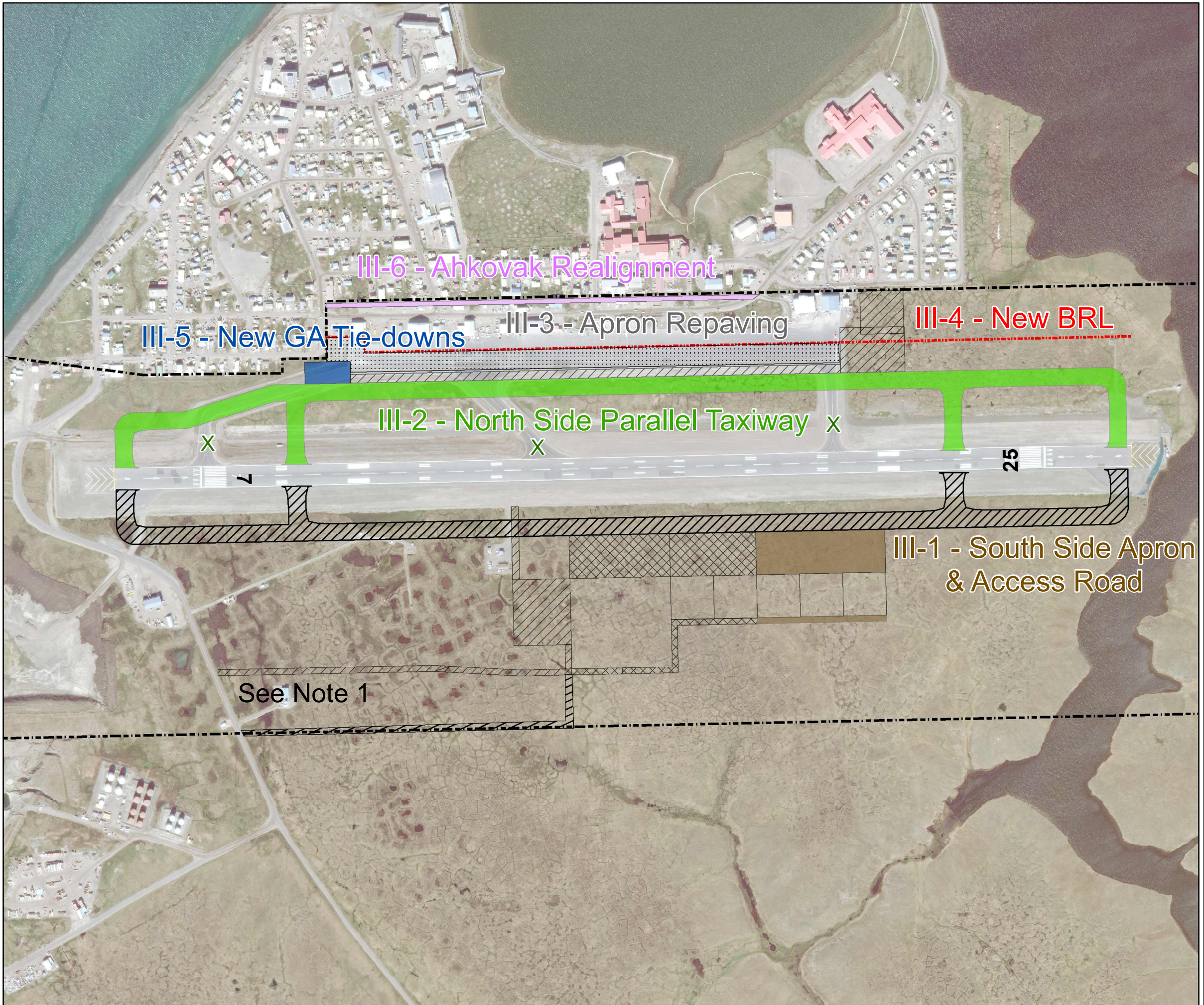
-  Preferred alternative components
-  Phase II Projects
-  Phase I Projects
-  South Side Apron Expansion
-  New GA Tie-downs
-  North Parallel Taxiway
-  BRL Shift (850')
-  Airport Boundary
-  Apron Repaving
-  Ahkovak Realignment
-  Removed under III-2

Note 1:
 The location of the south side access road to be determined by funding source.

Data Sources:
 ADOT & PF
 North Slope Borough, Dept. of Planning
 Imagery date: July, 2012



Prepared For:



III-3 – Apron Repaving\$5.7 million

Purpose

Repave the north side apron from the new BRL (Project III-4) to the edge of the pavement constructed under project I-3; by this time, the pavement will be nearly 20 years old.

Scope

Mill and pave the north side apron between the BRL and the expanded apron (Project I-3); includes pavement markings.

Prerequisites

None

Anticipated Environmental Document

Categorical Exclusion

III-4 –BRL Shift and Lease Lot Expansion N/A¹

Purpose

Move the BRL 110 feet to the south and expand the existing lease lots 50 feet beyond the new BRL.

Scope

Administratively change the BRL from 960 feet to 850 feet from the runway centerline and expand existing apron-front lease lots to 50 feet beyond the BRL. Update the airport’s Land Occupancy drawings.

Prerequisites

I-3 and III-2

Anticipated Environmental Document

N/A

III-5 – Relocation of GA Tie-downs\$1.3 million

Purpose

Relocate existing GA tie-downs to the west end of the apron to allow the designation of a new lease lot.

Scope

Construct 20,000 square feet of apron at the west end of the existing apron. Relocate 14 tie-downs to this apron; install tie-downs, lighting, markings, and signage. Designate the old tie-down area as a new lease lot.

Prerequisites

I-3 and III-2

Anticipated Environmental Document

Categorical Exclusion

¹ The BRL shift & lease lot expansion costs would be minimal and likely associated with another project (e.g., III-2)

III-6 – Ahkovak Street Realignment and Lease Lot Expansion\$13.5 million

Purpose

Realign Ahkovak Street to the northern edge of the airport property boundary to allow expansion of the existing apron-front lease lots and alleviate vehicle congestion.

Scope

Realign Ahkovak Street between Kiogak Street and the intersection of the eastern end of Ahkovak Street with the airport boundary. The street will be moved to the north edge of the airport property and existing lease holders in Blocks 200, 400, and 600 will be relocated. Expand the existing apron-front lease lots northward to the new Ahkovak Street right-of-way.

Prerequisites

None

Anticipated Environmental Document

Environmental Assessment

6.3 Estimated Costs

Table 6-1 – Estimated Project Costs

	Project Description	Total Estimated Cost (millions)	AIP Eligible?
Phase I: 2014-2019			
I-1	Runway Repair	\$ 3.6	Yes
I-2	M&O Facilities	\$ 13.5	Yes ²
I-3	Apron Expansion	\$ 12.0	Yes ³
I-4	Stormwater Management Plan	\$ 0.1	
I-5	South Side Parallel Taxiway	\$ 40.0	Yes
	Phase I Total	\$ 69.2	
Phase II: 2019-2024			
II-1	South Side Apron	\$ 16.0	Yes ^{2,3}
II-2	Master Plan & ALP Update	\$ 1.5	Yes
II-3	ARFF/SREB Expansion	\$ 1.5	Yes
II-4	Runway Repaving	\$ 12.0	Yes
	Phase II Total	\$ 31.0	
Phase III: 2024-2034			
III-1	South Side Apron Expansion	\$ 10.5	Yes ^{2,3}
III-2	North Side Parallel Taxiway	\$ 40.0	Yes
III-3	Apron Repaving	\$ 5.7	Yes
III-4	BRL Shift and Lease Lot Expansion	\$ N/A	No
III-5	Relocation of GA Tie-downs	\$ 1.3	Yes
III-6	Ahkovak Street Realignment and Lease Lot Expansion	\$ 13.5	Maybe
	Phase III Total	\$ 71.0	

² A south side access road constructed on the airport boundary (i.e., shared use) would not be eligible for AIP funds

³ Lease lot development would not be AIP-eligible

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