1.0 INTRODUCTION

1.1 Airport Master Plan Description

This Airport Master Plan Update (plan) provides guidance for the development of the Wiley Post-Will Rogers Memorial Airport, referred to as BRW throughout this report, to make the necessary improvements to maintain a safe and efficient airport that is economically, environmentally, and socially sustainable. The plan was prepared between 2022 and 2024 and replaces the existing master plan published in 2014. The plan was developed in accordance with the Federal Aviation Administration (FAA) Airport Master Plan Advisory Circular (AC) 150/5070-6B *Airport Master Plans*.

A definition of an airport master plan and its primary components and steps are described in Figure 1-1.

Figure 1-1. Airport Master Plan Steps

The products of this airport master plan process include this master plan report and an Airport Layout Plan (ALP) that depicts how airport development can be completed in accordance with FAA design standards (Chapter 8). This plan also describes a phased 20-year Capital Improvement Program (CIP) (Chapter 6) that establishes airport improvement priorities and schedules.

1.2 Regional Setting

Utqiaġvik is above the Arctic Circle on the coast of the Chukchi Sea, and at 71 degrees north latitude, it is the most northern city in the United States (U.S.). Utqiaġvik was formerly named Barrow, but the city changed its name to Utqiaġvik in 2016. Utqiaġvik means place to gather edible roots (utqiq) and the community is traditionally known as Ukpeaġvik, which means place where snowy owls are hunted (Figure 1-2). The community has been inhabited since between 500 and 900 A.D, and it was a site for commercial whaling in the late nineteenth century. Today, the majority of residents are Iñupiat.

Figure 1-2. Welcome Sign at Utqiaġvik

Utqiaġvik is the largest city in the North Slope Borough (NSB) and the government, service, supply, education, and transportation hub of the region. The NSB was incorporated in 1972, is nearly 95,000 square miles and is located in northern Alaska. There are eight communities within the NSB and none are on the road system. Travel modes are limited to air, marine/river, or winter trails.

Tribal entities of Utqiaġvik include the Native Village of Barrow (NVB) and the Iñupiat Community of the Arctic Slope (ICAS). The Alaska Native Claims Settlement Act (ANCSA) of 1971 created regional and village corporations. Arctic Slope Regional Corporation (ASRC) is the for-profit regional corporation and is headquartered in Utqiaġvik. The non-profit regional corporation is Arctic Slope Native Association, Limited (ASNA), also based out of Utqiaġvik. The village corporation for Utqiaġvik is Ukpeaġvik Iñupiat Corporation (UIC).

Utqiaġvik sits on low tundra in the Arctic Coastal Plain along the northern coast of Alaska and into Canada. The ground is made up of thick, continuous permafrost. The active upper layer of permafrost thaws during the short, cool summers creating numerous small thaw lakes. There is little precipitation in this region and winter weather is extreme. At this high latitude, there are prolonged periods of daylight in summer and darkness in winter.

Due to Utqiaġvik's location, it has become a hub for arctic research. The U.S. military built the Naval Arctic Research Laboratory (NARL) including a radar station, airstrip, laboratory facilities, and personnel housing north of town during the 1940s and 1950s. These facilities are still used today by Ilisagvik College and to support Utqiaġvik-based research activities. UIC Science, LLC

is the primary Arctic-based logistical hub for arctic research in the U.S. The Barrow Arctic Research Center and the Charles Etok Edwardsen Barrow Environmental Observatory are spaces UIC uses to conduct these research activities.

The Arctic is seeing increasingly ice-free waters in summer months allowing for more marine traffic to pass through. In the past the United States Coast Guard (USCG) has discussed the potential to increase its presence in the region to ensure safe, secure, and environmentally responsible maritime activity. Various entities have also considered Utqiaġvik as a potential site for a deep seaport.

Due to its location within the Arctic, Utqiaġvik has been a part of the following historic expeditions:

- Roald Amundsen, 1926 blimp flight to the North Pole
- Ben Eielson, 1928 trans-Arctic flight
- Charles and Anne Lindbergh, 1931 Orient surveying expedition
- Wiley Post and Will Rogers, 1935 Alaska tour that ended in a fatal airplane crash near Utqiaġvik

To commemorate those dying in the 1935 crash, the airport was named the Wiley Post-Will Rogers Memorial Airport. The identifier for this airport is BRW. BRW was originally constructed in 1964 as a gravel airstrip long enough to accommodate small aircraft. Currently the airport has a paved 7,100-foot-longx 150-foot-wide runway that supports large commercial-, cargo-, and military aircraft.

BRW serves the NSB communities of Atqasuk, Wainwright, Point Lay, and Nuiqsut along with scheduled service to the population centers of Fairbanks and Anchorage. Some flights between Fairbanks and Utqiaġvik include stops in Kaktovik and Deadhorse. Point Hope is served out of Kotzebue; however, there is a non-direct flight out of Utqiaġvik with a stop in Point Lay. Anaktuvuk Pass and Kaktovik are served out of Fairbanks. Nuiqsut is served out Utqiaġvik and Deadhorse. Figure 1-3 depicts the location of Utqiaġvik within the NSB.

This page intentionally left blank.

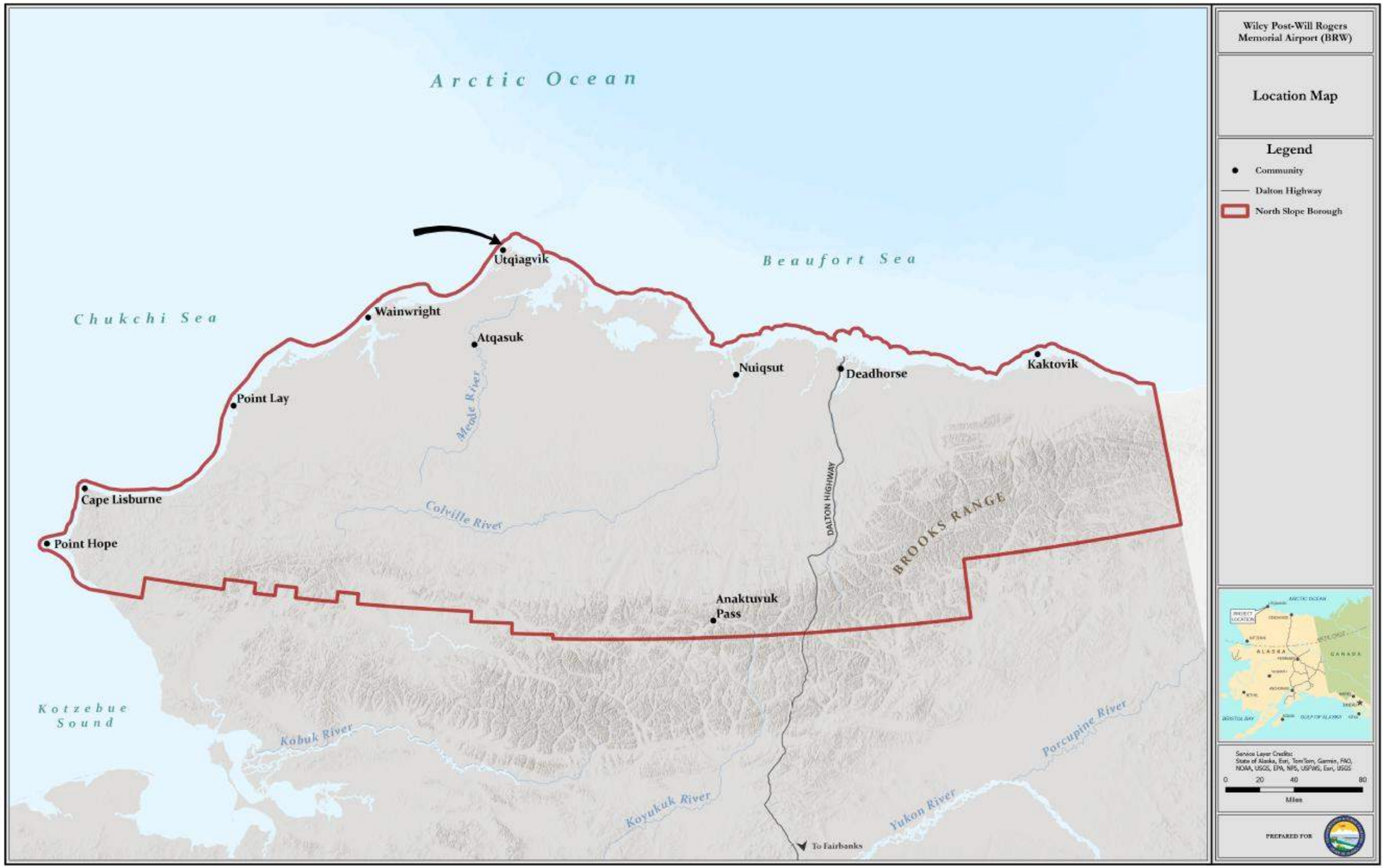

Figure 1-3. Vicinity Map

This page intentionally left blank.

1.3 Stakeholder Involvement

Issues, needs, alternatives, and recommendations for developing a master plan are heavily influenced by the input of airport users, community members, and other stakeholders. Development of this master plan update included formal and informal methods of providing user/stakeholder input (Appendix A), including:

- User interviews
- A project website with a project email address
- Attendance at stakeholder meetings and one-on-one meetings with the NSB, City of Utqiaġvik, community groups, the military, airport users and tenants
- A State of Alaska Department of Transportation and Public Facilities (DOT&PF) Teams group comprised primarily of DOT&PF staff
- Public meetings in Utqiaġvik near the beginning of plan development, during the evaluation of alternatives, and at the Recommended Plan stage.

In advance of the initial site visit and public open house, DOWL conducted interviews by phone and/or virtually for numerous BRW stakeholders. A site visit of BRW was conducted February 9, 2023 to February 10, 2023 that included in-person meetings with airport staff, local stakeholders, DOT&PF, NSB, ASRC, and airport tenants. The first public open house was held on February 9, 2023, in Utqiaġvik at the Iñupiat Heritage Center. Key master plan issues discussed include:

Airfield

- Runway length is a significant concern to Alaska Airlines' future fleet operations. Current runway length during winter weather is at times insufficient for Alaska Airlines landing.
- Runway 8/26 requires resurfacing approximately every 10 years.
- There is a non-standard Runway Safety Area (RSA) on the east end of Runway 8/26, which is limited by the lagoon to the east. Other alternatives should be pursued for compliance.
- There are water drainage issues from the east end of runway 8/26, potentially into the lagoon, the community's drinking water resource, immediately east of the runway.
- Airfield Navigational Aids (NAVAIDs) are outdated and need updating, including Runway End Identifier Lights (REIL), Instrument Landing System (ILS), and glide slope.
- The airport needs a full-length parallel taxiway north of runway 8/26; this could be accomplished by extending Taxiway A northeast to the Runway 26 threshold.

- The north taxilane centerline was shifted in 2022 to avoid wingtip clearance issues on the terminal ramp (Lynden & Alaska Airlines); the terminal apron needs widening, potentially to the south concurrent with north parallel taxiway extension to NE.
- Helicopter operations do not have a separate apron site away from other airport users. No new sites have been located yet. Surrounding neighbors report the noise from helicopters is an issue. The residential area off Pisokak Street experienced the highest levels of noise in an analysis completed for DOT&PF in 2014 when helicopter operations were higher than current operations.
- A minimum half-length taxiway is desired on the south side of Runway 8/26 to support southside lease lot development and access to the runway.

Lease Lots

- Larger terminal facilities are needed to meet current passenger demand.
- Larger cargo facilities are needed to meet current cargo demand.
- Additional lease lots are needed but are expensive to develop, with limited gravel availability and permafrost challenges. Larger lots than currently available are desired. Additional lease lots could allow more airlines to operate out of BRW, which could create competition and drive airline prices down.
- There are significant drainage issues at the passenger terminal, both landside and airside. There are seasonal airside flooding issues including passengers having to walk over the apron “lake” to get into the terminal and aircraft having to park backwards.
- The existing snow removal equipment building (SREB) building will become available soon; there is potential to develop it for terminal expansion.
- More passenger terminal vehicle parking is needed.
- Relocated transient parking is desired; the General Aviation (GA) community needs power hook ups for aircraft in transient parking.
- There is a lack of dedicated military facilities.

Other

- The airport needs to be fully fenced for security and wildlife issues (caribou, marine mammals).
- There are per- and polyfluoroalkyl substances (PFAS) concerns; a Work Plan Addendum was issued January 2023 for additional water supply search and sampling at BRW.[1]

[1] *Shannon & Wilson. 2023. General Work Plan Addendum. DOT&PF Statewide PFAS Addendum 022-BRW-01 Utqiagvik Water Supply Sampling. Utqiagvik, Alaska.*

- Gate 5 needs relocated or realigned with the public road. Vehicles are required to stop after passing through a gate to make sure the gate closes properly. At Gate 5, vehicles must stop in the public road after passing through the gate and may block traffic on the road.
- Unmanned Aircraft Systems (UAS) development is planned throughout the northern region; impacts to BRW are unknown thus far.

2.0 INVENTORY OF EXISTING CONDITIONS

Existing conditions at BRW were evaluated through review of prior planning, airport records, on-site visits, and interviews with stakeholders. Data related to the following topics were collected: airspace, NAVAIDs, air traffic control, airport facilities, aircraft operations/enplanements, facility conditions, maintenance and operations, environmental issues, maps, land use regulations, and zoning for the NSB.

Project staff conducted interviews by phone and during a site visit in Utqiaġvik on February 9 and 10, 2023. Members of the project team spoke with DOT&PF and NSB staff, ASRC representatives, and airport tenants. Inventory information from the prior airport master plan has been incorporated into this updated plan where data remains correct and relevant.

The information collected from the interviews and site visit was subsequently used in assessing existing conditions, developing aviation forecasts, and determining facility requirements.

2.1 Airport Ownership and Classifications

2.1.1 Airport Ownership

BRW is a commercial, public use airport and is operated and maintained by DOT&PF. The airport operates 14.5 hours per day from 0600 to 2030 depending on staffing. DOT&PF recently moved into its new Airport Aircraft Rescue and Fire Fighting (ARFF)/SREB building and is in the process of selling its former ARFF/SREB. Most other airport facilities are owned and operated by airport users, the FAA, National Weather Service (NWS), and utility companies.

2.1.2 Airport Classifications

According to FAA's *National Plan of Integrated Airport Systems (NPIAS) 2023-2027* report, BRW's role is classified as a Public, Commercial Service — Primary Non-hub airport. Service levels reflect the type of services an airport provides its community, as well as representing funding categories set up by the U.S. Congress (Congress) to assist in airport development. NPIAS defines a Commercial Service — Primary Non-hub Airport as one that receives less than 0.05 percent but more than 10,000 of the annual U.S. commercial enplanements.

The 2019 *Alaska Aviation System Plan* (AASP) classifies BRW as a Regional Hub Airport, one of 28 airports in this classification in Alaska. Regional Hub Airports are typically economic and transportation hubs for more than one community that often support large commercial and