
CHAPTER 4: IMPLEMENTATION & COMPATIBILITY

Introduction

The implementation and compatibility plan provides guidance on how to carry out the preferred development recommendations identified in **Chapter 2: Runways and Taxiways** and **Chapter 3: Terminal Area and Support Facilities**.

Based on the preferred development plan, the improvement projects needed at the Warroad Memorial International Airport (RRT) over the planning period can be formulated.

This chapter includes the following sections:

- [Project Sequence](#)
- [Financial](#)
- [Environmental Review](#)
- [Compatibility](#)

Background

Each project is sequenced to balance demand, schedule, other projects, environmental/agency approval, funding, and financial constraints.

The project plan may change over time to react to changing conditions but is flexible so that the airport can react to change and re-prioritize projects based on actual demand.

A more detailed facility implementation and financial feasibility plan is identified for the short-term (i.e. 1-10 years), because needs are more realistically anticipated based on available funding and actual demand.

There is more uncertainty in project funding, demand, and local project importance in the long-term. When reaching that point, airport planning documents should be updated.

Implementing a Project

The airport must go through an established process to receive the federal funds to complete an airport development project. FAA requires long lead times to complete all project steps and incorporate projects into federal funding plans. Additional coordination is required to prepare National Environmental Policy Act (NEPA) environmental documentation. Common steps in the project implementation process for a complex project include (steps may be shorter or longer based on complexity):

Professional Services: Select a qualified consultant for the project planning, environmental reviews, survey, engineering design, and construction administration for the project. The FAA recommends a distinct selection process for both planning and engineering services.

Five (5) Years Prior to Construction: Identify the project on the Airport Layout Plan, complete necessary airport planning studies and collect supporting documentation to demonstrate the project is justified for AIP funding, and is compatible with the Airport Layout Plan.

Four (4) Years Prior to Construction: Update the Capital Improvement Plan (CIP) to identify the project scope, eligibility, justification, and funding. Close coordination with FAA is required.

Three (3) Years Prior to Construction: Initiate any aeronautical surveys, navigational aid agreements (reimbursable agreements) or special FAA coordination for flight procedures which may be necessary prior to construction. Solidify project funding plan and final justification with FAA.

Two (2) Years Prior to Construction: Complete required NEPA environmental documentation and analysis for the proposed action. Prepare 30 percent project design, refine cost estimates, and prepare benefit/cost analysis as necessary. Acquire land for project and initiate airspace studies.

One (1) Year Prior to Construction: Obtain environmental clearance and permits for the proposed action. Prepare funding pre-application, detailed project plans and specifications including design report, airspace studies, Safety Management Systems (SMS) and construction safety/phasing plan. Finalize project schedule.

Year of Construction: Complete final design. Solicit bid proposals from companies engaged in the project construction. Prepare grant application and accept Federal grant. Issue notice to proceed and monitor construction. Maintain FAA grant compliance and payments.

After Construction: Submit final report and close out the AIP grant.

For complex projects requiring federal discretionary funding such as runway extensions, these steps may take up to five years prior to the issuance of an AIP grant for construction. Less complex projects using entitlements such as pavement rehabilitation will require less lead times, typically no less than three years prior to grant issuance.

All planning-level project costs developed are in 2024 dollars. Final project costs are subject to change based on actual construction and project formulation needs.

Many of the projects identified are demand-driven based on the Planning Activity Levels (PALs) established in the approved aviation forecasts. The timing of implementation is estimated from the FAA-approved activity forecasts. Any change from the forecasted airport activity may affect the timing of capacity-driven improvements.

Based on the PALs and other regular pavement and safety needs, some airport development capacity projects may not be able to be sequenced to meet PALs within a realistic funding plan.

These projects are initiated within a few years of their PAL demand trigger to account for anticipated available funding.

Project Sequence

Significant individual projects are described in this section along with information about the project purpose, scope, and triggering events.

The recommended project phasing at Warroad is based on anticipated needs and available funding.

This information provides guidance to the airport sponsor and funding agencies on future implementation steps.

Short-Term Projects (0-10 Years)

Short-term projects cover the planning period for the next ten years through 2034, generally corresponding to the forecast Planning Activity Levels (PAL) 1 and 2.

Projects in this phase address the highest priority needs justified for funding. Significant short-term projects are further described in **Table 4-1 Short-Term Projects**.

Table 4-1 - Short-Term Projects

| Project | Scope | Estimated Cost | Trigger | Prerequisites |
|---|---|----------------|---|---|
| Replace AWOS | Design and Construction of new AWOS | \$140,000 | Equipment is dated and replacement parts are no longer available. Does not meet current siting standards. | Planning approved, documented CATEX, plans/specifications |
| Parallel Taxiway Rehabilitation/Reconstruction | Rehabilitation or reconstruction of parallel taxiway with connector to apron and removal of direct access to runway | \$5.56M | Pavement condition necessitates rehabilitation or reconstruction | Documented CATEX and plans/specifications |
| Apron Expansion | Design and construction for expansion of general aviation apron | \$800,000 | Apron lacks sufficient depth and space for aircraft maneuvering and parking | Taxiway rehabilitation and connector realignment, approved planning, documented CATEX, plans/specifications |
| Airfield Lighting Rehabilitation | New Runway Edge Lights, Guidance Signs, PAPIs, Beacon and Windcone | \$930,000 | Airfield lighting has reached the end of its life-cycle. | Coincide with runway rehabilitation, approved planning, plans/specifications |
| Rehabilitate Runway 13-31 | Mill and Overlay | \$2.12M | Pavement condition necessitates rehabilitation | Documented CATEX and plans/specifications |
| Relocate and Construct Above Ground Fuel Facility | Construction | \$1.08M | Equipment has reached the end of life-cycle and increase tank capacity needed | Apron expansion complete, approved planning, plans/specifications |

Source: KLJ Analysis

Capital Improvement Plan (CIP)

The CIP is a key element in the implementation plan. The CIP identifies the project title, year, estimated costs, and anticipated funding for airport improvements. Larger projects are often divided into smaller elements that reflect how projects are approved, designed, and constructed. Each project is requested through the CIP project programming and grant application process. The CIP is updated and submitted to the FAA annually to program Federal and State grant funding. The proposed Warroad CIP identifies over \$12 million in airport improvements over the next 10 years.

Table 4-2 – Capital Improvement Plan

| Year | Project | Scope | Estimated Cost | FAA Funds | State Funds | Local Funds |
|----------------------------|---|---|---------------------|---------------------|--------------------|------------------|
| 2024 | SRE Acquisition | Wheel Loader w/ Blower and Plow Attachments | \$550,000 | \$495,000 | \$27,500 | \$27,500 |
| 2025 | Reconstruct & Realign Parallel and Connecting Taxiways; GA Apron Expansion | Design | \$260,000 | \$234,000 | \$13,000 | \$13,000 |
| 2025 | Maintenance Equipment | Acquire Mower Attachment | \$20,000 | - | \$15,000 | \$5,000 |
| 2026 | Reconstruct & Realign Parallel and Connecting Taxiways | Construction | \$5,000,000 | \$4,500,000 | \$250,000 | \$250,000 |
| 2026 | Reconstruct & Realign Parallel and Connecting Taxiways (State Only Portion) | Construction | \$300,000 | - | \$225,000 | \$75,000 |
| 2026 | GA Apron Expansion | Construction | \$800,000 | \$746,913 | \$26,543 | \$26,543 |
| 2026 | Replace AWOS | Design and Construction | \$140,000 | | \$140,000 | |
| 2027 | Pavement Maintenance | Crack Seal Airport Pavements | \$50,000 | | \$37,500 | \$12,500 |
| 2028 | Airfield Lighting Rehabilitation | Design | \$80,000 | \$72,000 | \$4,000 | \$4,000 |
| 2028 | Rehabilitate Runway 13-31 | Design | \$120,000 | \$108,000 | \$6,000 | \$6,000 |
| 2029 | Airfield Lighting Rehabilitation | Construction | \$850,000 | \$765,000 | \$42,500 | \$42,500 |
| 2029 | Rehabilitate Runway 13-31 (Mill & Overlay) | Construction | \$2,150,000 | \$1,935,000 | \$107,500 | \$107,500 |
| 2031 | SRE Building | Design | \$100,000 | \$90,000 | \$5,000 | \$5,000 |
| 2031 | Pavement Maintenance | Crack Seal Airfield Pavements | \$50,000 | - | \$37,500 | \$12,500 |
| 2031 | Gravel Access Road | Construction | \$50,000 | - | \$37,500 | \$12,500 |
| 2032 | SRE Building | Construction | \$1,000,000 | \$900,000 | \$50,000 | \$50,000 |
| 2033 | Above Ground Fuel Facility | Design | \$80,000 | \$72,000 | \$4,000 | \$4,000 |
| 2033 | Acquire Airport Truck | Airport Vehicle | \$60,000 | - | \$45,000 | \$15,000 |
| 2033 | Parking Lot/Ramp Lighting | Construction | \$50,000 | - | \$37,500 | \$12,500 |
| 2034 | Above Ground Fuel Facility | Construction | \$1,000,000 | \$900,000 | \$50,000 | \$50,000 |
| 0-10 Year Sub-Total | | | \$12,760,000 | \$10,817,913 | \$1,198,543 | \$743,543 |

| | | | | | | |
|-----------------------------|----------------------------|---|---------------------|---------------------|--------------------|------------------|
| 2035 | Replace Runway Sweeper | Front Mounted Attachment | \$50,000 | - | \$37,500 | \$12,500 |
| 2036 | Pavement Maintenance | Crack Seal Airfield Pavements | \$50,000 | - | \$37,500 | \$12,500 |
| 2037 | Pavement Maintenance | Rehabilitate Runway 13-31 and Taxiways (Crack Seal and Seal Coat) | \$300,000 | \$270,000 | \$15,000 | \$15,000 |
| 2038 | Pavement Maintenance | Rehabilitate Apron (Design) | \$100,000 | \$90,000 | \$5,000 | \$5,000 |
| 2039 | Pavement Maintenance | Mill and Overlay Apron | \$800,000 | \$720,000 | \$40,000 | \$40,000 |
| 2041 | Pavement Maintenance | Crack Seal Airfield Pavements | \$50,000 | - | \$37,500 | \$12,500 |
| 2042 | Transient Community Hangar | Design | \$100,000 | - | \$75,000 | \$25,000 |
| 2043 | Transient Community Hangar | Construction | \$1,000,000 | - | - | - |
| 10-20 Year Sub-Total | | | \$2,450,000 | \$1,080,000 | \$247,500 | \$122,500 |
| TOTAL | | | \$15,210,000 | \$11,897,913 | \$1,446,043 | \$866,043 |

Source: KLJ Analysis; values rounded to nearest 100.

Financial

The implementation plan considers the airport’s ability to fund the projects identified in this planning study. Projects in the short-term and mid-term are discussed in more detail for realistic project sequencing based on identified needs, airport priorities and available funding. Financial feasibility is a major consideration in developing the implementation plan and Airport Capital Improvement Plan (ACIP).

Airport funding for projects is derived from many sources. Funding sources can be categorized into three main categories:

- Federal funding
- State funding
- Local or Private funding

Detailed information about these funding programs can be found in **Appendix B – General Aviation Airports 101 (Airport Funding)**.

A realistic project implementation plan must consider financial resources. The financing strategy for the Warroad Airport provides sufficient federal, state, and local funding for future airport improvements. Projected funding sources are based on existing legislation.

Federal Funding

Federal Airport Improvement Program (AIP) funding provides financing for most of the improvements proposed at the Warroad Airport. While maximizing the projected entitlement funding available to Warroad (\$150,000/year), these entitlements will only finance a portion of the proposed improvements through the 20-year period. Entitlements will be used to fund AIP-eligible projects, particularly critical maintenance, safety, and capacity enhancements.

Federal discretionary funding will be needed to fund the highest priority projects at the airport. These projects cannot be completed with entitlement funds alone. Discretionary funding will be needed to complete these projects in 2026-2029. Discretionary funding is anticipated to fund about 50 percent of the cost of airport improvement projects through the next 10 years. A summary of Discretionary funding needs can be found in **Table 4-3**.

These funds will be from either Discretionary or State Apportionment funds. FAA’s preference is to combine entitlement and discretionary funds on high priority projects.

Table 4-3 – Federal Discretionary Funding

| Year | Project | Cost | FAA Entitlement | FAA Discretionary | State | Local |
|----------------|--|--------------------|------------------|--------------------|------------------|------------------|
| 2026 | Reconstruct Parallel Taxiway and Connecting Taxiways | \$5,300,000 | - | \$4,500,000 | \$475,000 | \$325,000 |
| 2029 | Airfield Lighting Rehabilitation | \$850,000 | \$326,446 | \$402,554 | \$42,500 | \$42,500 |
| 2029 | Rehabilitate Runway 13-31 | \$2,000,000 | - | \$1,800,000 | \$100,000 | \$100,000 |
| Totals: | | \$8,150,000 | \$326,446 | \$6,702,554 | \$617,500 | \$467,500 |

Source: KLJ Analysis

COVID-19 Relief

During the Coronavirus Disease 2019 Pandemic (COVID-19), the United States government signed three laws for economic assistance to eligible U.S. airports through 2020 and 2021. These funds were to be used to prevent, prepare for, and respond to COVID-19.

The first law, the Coronavirus Aid, Relief, and Economic Security (CARES) Act was signed on March 27, 2020, for \$2.3 trillion dedicated towards combatting the effects of COVID-19.

Of this, \$10 billion were to keep airports in operation to serve the industry, traveling public and to support the economy, along with keeping airports credit ratings stable, and to keep airport and aviation workers employed. These funds could be used for any purpose for which airport revenues may be lawfully used.

Then on December 27, 2020, the Coronavirus Response and Relief Supplemental Appropriation Act (CRRSAA) was the second law signed including \$900 billion in supplemental appropriation for COVID-19 relief. The FAA established the Airport Coronavirus Response Grant Program (ACRGP) which included \$2 billion of the act.

Finally, the American Rescue Plan Act of 2021 was signed into law on March 11, 2021, which included \$1.9 trillion to address the ongoing health crisis and spur a strong economic recovery. The FAA established the Airport Rescue Grants which is how \$8 billion of those funds.

Bipartisan Infrastructure Law

On November 6, 2021, the Bipartisan Infrastructure Law (Infrastructure Investment and Jobs Act) was passed. This included \$ 1 trillion for improvements to highways, bridges, roads, passenger and freight rail, airports, water and wastewater treatment, internet access and modernizing the electric grid.

The FAA awarded the \$25 billion received from the law to 3,075 airports and divided it into three grant groups:

1. \$5 billion for airport terminals to replace aging terminals, increase energy efficiency and accessibility.
2. \$5 billion for air traffic facilities to update and upgrade equipment to improve safety, security and environmental standards and replace necessary facilities.
3. \$15 billion for airport infrastructure for projects as defined under the existing Airport Improvement Program and Passenger Facility Charge criteria including runways, taxiways, safety and sustainability projects, terminal, airport-transit, and roadway.

\$113,000 is allocated annually from the Bipartisan Infrastructure Law to Warroad Airport for future improvements.

State Funding

The Minnesota Department of Transportation, Office of Aeronautics (MnDOT Aeronautics) manages the State Airport's Fund and administers several grant and loan programs for eligible airports. These programs include the airport construction grant program, airport operations and maintenance program,

navigational aids, equipment competitive solicitation program, and the hangar loan revolving account program.

Many of the capital improvements are funded at 75% State funding for NPIAS airports with populations less than 5,000 like the City of Warroad. Fueling systems and trucks, which are revenue producing are funded at 70%. Hangar buildings are not usually eligible for State funding but can be on a case-by-case bases and there is an interest-free 20-year loan for 80% of the building cost is available. Then, equipment (with proper justification) such as SRE can be funded at 75%.

The State funding will be a key source of funding to be used for airport development. This is expected to be approximately \$1.5 million through 2042. The City of Warroad should stay apprised of the State's funding programs and funding levels to determine the impact of that funding on the projects planned for the Warroad Memorial International Airport.

State NAVAID Modernization Program

In 2023, the Omnibus Transportation Bill was approved by the Minnesota legislature. Included in this bill was a request for \$15 million to replace aging navigational aids across the state. The funds will be used to update up to 40 AWOS systems as well as some Instrument Landing Systems (ILSs). Funds will be provided in the form of a grant and up to 100 percent of the project will be paid for by MnDOT with a cap of \$300k. Costs for the equipment and construction are included in the grant. The AWOS replacement project at Warroad is expected to be funded under this program.

Local Funding

A local match will be needed for AIP and State funded projects. This requirement will be at least 5% of the project cost but could vary depending on project eligibility and the structure of the State and Federal funding programs.

The Warroad Airport has a slate of projects planned and should consider a few options to increase the local funding for annual operations and maintenance costs as well as capital improvement project funding.

The City of Warroad makes annual contributions from the city's general fund to the airport's operating fund. It is important to note that for upcoming projects, the airport will be required to initially provide funds that will later be reimbursed. Bonds are an option for debt financing, which are backed by the creditworthiness and taxing power of the municipality.

In addition to the city contributions, the airport makes revenue primarily through leases and fuel sales. The airport should continue to evaluate and maximize current and additional revenue streams to allow them to adequately fund upcoming projects.

Environmental Review

Introduction

FAA AC 150/5070-6B, *Airport Master Plans* identifies a planning-level environmental review as one of the elements of effective planning. The purpose behind this element of the airport master planning process is to help the airport sponsor thoroughly evaluate environmental impacts of airport development alternatives, and to provide information for subsequent environmental processing.

This environmental review section is not intended to fulfill the requirement of environmental review required by National Environmental Policy Act (NEPA) or provide a definitive class of action determination for the proposed improvements. The purpose of this environmental review is to provide community, airport sponsor, and regulatory awareness of the importance of minimizing the environmental impacts to this airport improvement area and to provide a general indication of the likely need for further investigation. Appropriate environmental documentation in accordance with FAA Order 5050.4B, *NEPA Instructions for Airport Actions* and FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures* is required to be completed prior to commencing with project actions.

NEPA Environmental Review Process

Every Federal action requires an environmental review per NEPA. Actions shall be thoroughly evaluated and coordinated with resource agencies during the environmental review phase. Impacts should be avoided whenever possible, minimized, or mitigated as a final option. Federal actions fall into one of three types of class of actions:

- **Categorical Exclusion (CATEX):** This environmental documentation is used for actions that do not normally require an Environmental Assessment (EA) or Environmental Impact Statement (EIS), because they do not individually or cumulatively have a significant effect on the human and/or natural environment. Documentation required includes either simple documentation or the completion of a checklist with supporting documentation certifying that the action will not exceed any environmental impact thresholds.
- **Environmental Assessment (EA):** Typical actions that require an EA are those that are not categorically excluded or actions that may result in extraordinary circumstances such as impacts to wetlands, historical properties, or floodplains. EA documentation required here includes a condensed or comprehensive environmental analysis of the proposed action and alternatives, and the anticipated impacts from the proposed action. Agency review and coordination of the proposed action and impacts is required. The decision document proceeded after this analysis if no significant impacts are determined is a Finding of No Significant Impact (FONSI) issued by FAA, which is typically valid for three years.
- **Environmental Impact Statement (EIS):** Actions that require an EIS include those that will have a significant impact to the quality of the human and/or natural environment. An EIS may also be triggered if an EA concludes that the project will have a significant impact. This document provides in-depth impact and cumulative analyses of all proposed alternatives. The document published once a decision has been made on the alternative (typically the alternative that achieves the actions goals but has the least impacts) to move forward with is a Record of Decision (ROD). The EIS is valid for a period of three years.

Environmental Categories

Descriptions of potential impacts associated with the proposed Master Plan improvements are discussed by the impact categories identified in [FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*](#). Additional consultation regarding the improvement area would be warranted in the future during the environmental review phase of the project action.

Impact categories that will remain potentially unaffected by the proposed airport improvements identified in this study include:

- **Air Quality** – The improvements identified are not anticipated to effect air quality.
- **Climate** - The improvements identified are not anticipated to affect the climate.
- **Coastal Resources** – The airport is not located in a coastal environment.
- **Natural Resources and Energy Supply** – The proposed airport improvements would not affect any natural resources and energy supply.
- **Visual Impacts** – Visual impacts to adjacent properties from proposed airport activities are not expected.
- **Wild and Scenic Rivers** – There are no wild and scenic river designations near the Airport.

The categories identified below have the potential to be affected by the airport improvements identified in this study.

BIOLOGICAL RESOURCES

At Warroad International Memorial Airport, two threatened species and one candidate species have been identified. There are no critical habitats in or near the airport's vicinity. However, the U.S. Fish and Wildlife Service (USFWS) has noted the presence of eight bird species protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act that may be near this area.

Given the potential for these species to be located on or near the airport, a review of biological resources will be conducted for any proposed construction projects. While construction activities are most likely to affect biological resources, it's important to note that all proposed construction at RRT will occur within the existing airfield. These areas are managed and maintained to prevent wildlife from nesting and foraging, which should limit overall impacts during construction.

It is anticipated that the proposed development at RRT will not result in significant impacts on biological resources.

FARMLANDS

The Farmland Protection Policy Act (FPPA) defines prime farmland as land that has the best combination of physical and chemical characteristic for producing food, feed, forage, fiber and oilseed crops, and is also available for these uses. Unique farmland is farmland that is used for production of specific high value food, feed, and fiber crops. A search of the USDA Natural Resources Conservation Service (NRCS) web soil survey shows that most of the land surrounding the airport is classified as prime farmland if drained. Further consultation with NRCS would be required during a project's environmental review stage to calculate the Farmland Conversion Impact Rating if land outside the existing airport property would be acquired and converted to airport property.

FLOODPLAINS

Floodplains constitute lands situated along rivers and their tributaries that are subject to periodic flooding on the average interval of 100 years or less. RRT is not located within a 100-year floodplain; therefore, no further analysis is required.

HAZARDOUS MATERIALS, SOLID WASTE, AND POLLUTION PREVENTION

A review of known spills and/or contaminated sites in or around the Airport was not performed as part of this planning study. Although there are no known contaminated sites within one mile of the airport, prior to acquisition of new land to be owned in fee title by an airport sponsor, FAA recommends that an Environmental Due Diligence Audit (EDDA) be performed. An EDDA includes a more detailed review of an area, relative to NEPA-level review, for the possible presence of environmental contamination. There are no proposed activities that would require hazardous materials, solid waste, and pollution prevention to be addressed, provided that all construction activities would meet stormwater pollution prevention plan and Minnesota Pollution Control Agency (MPCA) requirements. Further analysis is necessary prior to project implementation.

HISTORIC AND CULTURAL FEATURES

Before a project that involves land disturbance is implemented, an analysis to identify the potential for cultural resources would need to be conducted for the project area. Coordination with the State Historical Preservation Offices (SHPO) and tribal members is necessary for projects involving land disturbance. A Phase I Archaeological Survey of previously undisturbed areas of the Airport was conducted in 2014 for the Airport wildlife fence project.

Any buildings affected that have potential to be listed in the National Register of Historic Places (NRHP) would require coordination with SHPO. Projects involving ground surface disturbance would require a determination of affect to historic properties to be obtained from the SHPO. Structures more than 50 years old are eligible for inclusion on the NRHP and further review is required to determine if these structures have significant historical, cultural, or architectural characteristics.

LAND USE

RRT is surrounded by forest, agricultural, and low-density rural development. Compatible land use is typically not influenced by normal airport operations. The compatibility of existing land uses in the vicinity of an airport is usually associated with the extent of noise impacts occurring from airport property and safety concerns. Incompatible land uses are typically items such as fuel storage facilities, areas of public assembly, tree rows, high density residential areas, and areas that have the potential to attract hazardous wildlife. Further analysis is necessary prior to project implementation to determine impacts on land use.

NOISE

Effects from noise during construction and use of the airport is another resource that may need to be addressed as needed depending on the proposed action. FAA does not require a noise analysis at airports whose forecasted operations do not exceed 90,000 annual propeller operations or 700 annual jet operations. These operations normally result in a cumulative noise exposure to be less than a 65

decibel Day-Night Level (DNL) identified as a critical threshold by FAA to take actions to mitigate sound exposure. Current airport operations at RRT are below this threshold and the proposed improvements are planned to improve safety and efficiency of the airport. They would not affect airport capacity and increase operations.

DEPARTMENT OF TRANSPORTATION-SECTION 4(F) & SECTION 6(F) PROPERTIES

Section 4(f) is applicable to projects which require the use of publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance, or land of an historic site of national, state, or local significance. RRT is on land owned by the City of Warroad and there are no known publicly owned lands from parks, recreation areas, or refuge areas within the immediate vicinity of the Airport. Further review of the potential to impact Section 4(f) resources specifically regarding potential cultural sites or historic properties would be required at the environmental documentation phase of any projects that would require ground disturbance.

No Land and Water Conservation Fund grants have been used to fund projects on or near RRT; therefore no further analysis of Section 6(f) is required.

SOCIOECONOMIC IMPACTS, ENVIRONMENTAL JUSTICE & CHILDREN' S ENVIRONMENTAL HEALTH & SAFETY RISKS

The social impacts of a project are influenced by its effects on the character, habits, safety, and economic conditions of the people living in the affected area. Key factors that shape the social climate of a community include its businesses, employment opportunities, transportation systems, and utilities. Any action that positively or negatively affects these factors can be considered to have social implications for the residents.

Additionally, off-airport actions, such as land acquisition, airspace avigation easements, and potential future obstruction mitigation, also contribute to the project's social impacts. Further analysis is necessary to fully understand these implications prior to project implementation.

WATER RESOURCES – SURFACE AND GROUND WATERS

Airport activities can affect water quality mainly due to stormwater runoff from paved areas. Providing treatment for stormwater runoff from runway, taxiway and apron areas using best management practices and grassed swale areas would minimize potential impacts to water quality. Drainage at the Airport generally flows into ditches located parallel to the primary runway and taxiway before leaving the airport into roadway ditches that eventually flow towards the Lake of the Woods.

A General Permit for Storm Water Discharges Associated with Construction Activities will be required from the MPCA for the proposed improvements if the area of disturbance exceeds one acre. Permit requirements would need to be reviewed during the environmental documentation phase. Further coordination with the MPCA will be needed for airport development projects.

WATER RESOURCES - WETLANDS

As outlined in Chapter 1, a wetland field delineation covering 238 acres of the airport was conducted as part of this planning study. This delineation identified 8 wetlands totaling 11.277 acres and 18 linear ditches covering 27.292 acres or 28,467 linear feet. **Figure 1-4** provides a graphical depiction of these resources.

The field delineation was completed to assess the extent, type, and jurisdiction of the ditches and wetlands that might be impacted by the reconstruction of the parallel taxiway. The U.S. Army Corps of Engineers (USACE) concurred with the delineation on December 21, 2022, and confirmed that all identified aquatic resources (linear ditches and wetlands) are likely jurisdictional under Section 404 of the Clean Water Act (CWA).

The proposed reconstruction of the parallel taxiway initially included a potential relocation to accommodate necessary apron expansion at the airport. This relocation plan has been adjusted to avoid and minimize impacts on aquatic resources to the extent practicable. Any remaining impacts will require appropriate mitigation as part of the permitting process. Further review and coordination with the FAA, Minnesota Pollution Control Agency (MPCA), and USACE will be required for future projects.

NEPA Documentation

Based on the preliminary environmental evaluation completed in this section and the anticipated 10-year projects in the implementation plan, **Table 4-4** has been prepared to document the potential anticipated environmental documentation necessary to proceed with the proposed actions. The ultimate decision on what documentation may be required for each proposed action will be determined by the FAA.

Table 4-4 – Environmental Documentation

| Proposed Action(s) | Anticipated Environmental Documentation |
|--|---|
| Reconstruct Parallel Taxiway and Connecting Taxiways | CATEX* |
| GA Apron Expansion | CATEX |
| Airfield Lighting Rehabilitation | CATEX |
| Rehabilitate Runway 13-31 | CATEX |

Source: KLJ Analysis

* Provided wetland impacts remain below threshold requiring an Individual USACE 404 permit.

Environmental Impact Summary

The Environmental Review Summary identified in **Table 4-5** summarizes the potential environmental impacts identified in the prior sections of this Chapter. This table is intended to give a general indication of the likely need for further environmental analysis. Additional environmental investigation is necessary to determine possible impacts associated with the improvement area.

At the appropriate time, the FAA would decide whether, and to what extent, any additional investigation would be performed. Based on findings of this environmental review, it is estimated that further environmental analysis is required for the proposed improvements.

Table 4-5 – Environmental Review Summary

| NEPA Impact Category | Further Analysis Required |
|--|---------------------------|
| Air Quality | No |
| Biological Resources | Yes |
| Climate | No |
| Coastal Resources | No |
| Department of Transportation Act Section 4(f) | Yes |
| Farmlands | Yes |
| Floodplains | No |
| Hazardous Materials, Pollution Prevention, and Solid Waste | Yes |
| Historical and Cultural Resources | Yes |
| Land Use | Yes |
| Natural Resources and Energy Supply | No |
| Noise | No |
| Socioeconomic Impacts and Environmental Justice | Yes |
| Surface and Ground Water | Yes |
| Visual Impacts | No |
| Wetlands | Yes |
| Wild and Scenic Rivers | No |

Source: KLJ Analysis, FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*

Compatibility

Overview

Airports are community assets providing significant benefits. They facilitate the movement of people, goods, and services, promote tourism and trade, stimulate business development, and support a variety of jobs.

The objective of land use planning is to guide on-airport and off-airport land use development to be compatible with airport operations. The airport directly controls on-airport compatible land uses to primarily serve aeronautical activities.

The airport does not directly control off-airport land uses. Surrounding land uses compatible with airports typically include those uses that can co-exist with a nearby airport without either constraining the safe and efficient operation of the airport or exposing people working or living nearby to unacceptable levels of noise or safety hazards.

Compatible land use also considers minimizing potential hazards to aircraft and the flying public. The impact of airport planning decisions extending well beyond the airport property line must be considered.

Land use planning around airports is important to airports and communities for several reasons:

- **Safety** - Compatibility is needed to maintain safety of the general and flying public. Risk should be reduced to an acceptable level. The airport must also maintain operational utility within identified safety and risk criteria.

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- **Airport Utility** - Land uses around airport should provide the airport so that there are not undue restrictions placed on the airport's existing or planned future arrival and departure procedures. Opportunities for future development identified in the narrative report and shown on the Federally (FAA) approved Airport Layout Plan should be considered.
 - **Human Environment** - Balancing the human environment with airport operations is important to maintain an acceptable level of airport impacts (i.e. noise and visual exposure) with the surrounding community.
 - **Economic Development**– Operational restrictions placed on the airport because of land use compatibilities have the potential to have a trickle-down effect on the community. This reduces the community's ability to accommodate the aviation needs of the public and local businesses, thus limiting economic development opportunities.

Incompatible land uses are one of the largest issues facing airports today, often resulting in conflicts between airports and their communities. They also may result in airport operational and grant project funding implications in certain situations. Building consistency between the recommendations in this study with airport land use compatibility standards and area-wide planning is vital for maintaining compatible land use.

The objective of this section is to assist the Warroad Airport in identifying land use standards compatible with the development plan and provide recommendations so that the airport can continue to meet safety and compatibility criteria. This chapter should become the framework to future land use planning efforts between Airport and City of Warroad.

Roles and Responsibilities

AIRPORT SPONSOR

As the airport sponsor, the City of Warroad, applies and receives federal grants. These federal grants require the city to develop and maintain the airport compatible with FAA rules and regulations through FAA Grant Assurances (obligations). There are currently 39 grant assurances which an airport sponsor assumes as a contractual obligation with the Federal Government when the sponsor accepts federal funds for airport development. FAA has published Order 5190.6B *Airport Compliance Manual* to assist FAA personnel and airport sponsors to maintain compliance with grant and land obligations. These grant assurances describe how the sponsor must operate the airport and serve the needs of the flying public. Grant assurances 20 and 21 pertain to compatible land use around airports.

20. Hazard Removal and Mitigation. It will take appropriate action to assure that such terminal airspace as is required to protect instrument and visual operations to the airport (including established minimum flight altitudes) will be adequately cleared and protected by removing, lowering, relocating, marking, or lighting or otherwise mitigating existing airport hazards and by preventing the establishment or creation of future airport hazards.

21. Compatible Land Use. It will take appropriate action, to the extent reasonable, including the adoption of zoning laws, to restrict the use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations, including landing and takeoff of aircraft. In addition, if the project is for noise compatibility program implementation, it will not cause or permit any change in land use, within its jurisdiction, that will reduce its compatibility, with respect to the airport, of the noise compatibility program measures upon which Federal funds have been expended.

FAA grant assurances require airports take appropriate action to protect airspace and restrict land uses in the immediate vicinity to those compatible with airport operations. Compatible land use control for the Warroad Airport is the responsibility of the airport sponsor.

FEDERAL AVIATION ADMINISTRATION

The FAA can provide guidance and funding to promote compatible land development around airports; however, it has no regulatory authority for controlling land uses. State and local governments are responsible for land use planning, zoning, and regulations.

The FAA develops grant assurances to protect federal investments in airports but are the responsibility of the airport sponsor to maintain. The FAA monitors all obligated airports to ensure they comply with the requirements of the grant assurances through its Compliance Program. If the sponsor fails to take the necessary corrective action, the FAA can legally impose penalties on the sponsor, including the loss of federal funding.

As defined by law, the FAA's authority to enforce most regulations and grant assurances is limited to within the airport boundaries. The FAA's only authority on compatible land use planning is through the grant assurances airport sponsors must adhere to in order to obtain federal funding for airport improvements.

In most cases, the most practical and cost-effective method for a sponsor to affect compatible land use outside of the airport's property is through zoning or easements rather than through land acquisition.

STATE OF MINNESOTA

The State of Minnesota has adopted laws to encourage multi-jurisdictional airport zoning. Minnesota Statute 360.063 is the enabling legislation that allows airport owners to administer and enforce, under the police power, airport zoning regulations for the airport hazard area. Tools include the creation of a multi-jurisdictional joint airport zoning board, extraterritorial zoning authority, and the withholding of state funds for noncompliance airport sponsors. Airport zoning procedural steps are defined in [Minnesota Statutes Chapter 360.061 to 360.074](#).

[Minnesota Administrative Rules 8800.1200](#) defines the criteria for determining air navigation obstructions, which generally follows the federal FAR Part 77 standard. Minnesota Administrative Rules 8800.2400 defines the minimum airport zoning standards. These zones are intended to restrict land uses that may be hazardous to the operational safety of aircraft using the airport, and to protect the safety and property of people on the ground in the area near the airport.

MnDOT Office of Aeronautics advises local governments on land use compatibility issues, as well as monitors and enforces compliance with the state’s minimum airport zoning standards and related procedures. Some flexibility is given to the minimum zoning standards based on the specific details and operational uses of the airport. More information is available from the state’s Airport Land Use Compatibility Manual.

SURROUNDING JURISDICTIONS

Local jurisdictions are responsible for developing and enforcing land use planning, zoning, and regulations. Development proposals are reviewed and approved at this local level through an established process. The local authority enforces multi-jurisdictional airport zoning regulations for proposed development. For the Warroad Airport, surrounding jurisdictions affected by the airport includes the City of Warroad and Roseau County.

Airspace Compatibility

Airspace compatibility includes avoiding vertical development that reduces the level of safety, increases risks of aircraft accidents, or measurably reduces the operational utility of airports. 14 CFR Part 77, *Objects Affecting Navigable Airspace* defines obstructions to air navigation. Other airspace requirements are defined in FAA Advisory Circulars and Orders. All Part 77 obstructions are a hazard to air navigation unless an aeronautical study concludes otherwise.

It is important to acknowledge that the FAA’s role is limited to evaluating the aeronautical effects of proposed structures; the FAA has no legal authority to stop the construction of any proposed structure. However, FAA grant assurance obligations require sponsors to take reasonable action to prevent and remove hazards to air navigation. State law in Minnesota requires airport zoning and associated minimum standards to protect FAR Part 77 surfaces.



Recommendations

Recommendations to maintain airspace compatibility at RRT include:

- Ensure policies or provisions are in place to require FAA Form 7460-1 *Notice of Proposed Construction or Alterations* to be submitted prior to new development on or around the airport.
- Follow through with clearing of obstructions identified in the Airport Layout Plan.