

Draft Environmental Assessment

Holmes Lake Waterfowl Production Area Shallow Lake Restoration

January 2026

Prepared by Windom Wetland Management District
Windom, Minnesota



U.S. Department of Interior
Fish and Wildlife Service
Region 3 (Midwest Region)
NEPA Unique ID: 2026-0071461-NEPA-001

Table of Contents

Executive Summary	5
Chapter 1: Introduction	6
1.1 Background	6
1.2 Proposed Action.....	7
1.3 Purpose and Need for Action	7
Chapter 2: Involvement, Coordination and Consultation	8
2.1 Public Involvement	8
2.2 State and Local Coordination.....	8
2.3 Tribal Consultation.....	8
Chapter 3: Alternatives	9
3.1 Decision Framework	9
3.2 Alternatives	9
Alternative A – Status Quo – No Action Alternative	9
Alternative B - Holmes Lake Restoration - Preferred Alternative	9
Monitoring Applicable to All Alternatives	12
Chapter 4: Affected Environment and Environmental Consequences.....	12
4.1 General Description of Affected Environment Applicable to All Affected Resources.....	13
4.2 Natural Resources	13
Habitat and Vegetation (including vegetation of special management concern):	13
<i>Description of Affected Environment for the Affected Resource</i>	13
<i>Environmental Consequences: Trends, Planned Actions and Impacts of Affected Resource</i>	13
Wetlands:	14
<i>Affected Environment</i>	14
<i>Environmental Consequences</i>	14
Wildlife and Aquatic Species:	15
<i>Affected Environment</i>	15
<i>Environmental Consequences</i>	15
Candidate, Threatened and Endangered Species, Critical Habitat, and Special Status Species:	15
<i>Affected Environment</i>	15
<i>Environmental Consequences</i>	16
Geology and Soils:	17
<i>Affected Environment</i>	17

<i>Environmental Consequences</i>	17
Water Resources: Water Quality, Hydrology, and Floodplains	17
<i>Affected Environment</i>	17
<i>Environmental Consequences</i>	17
4.3 Cultural and Historic Resources	18
Archeological Resources:	18
<i>Affected Environment</i>	18
<i>Environmental Consequences</i>	19
4.4 Socioeconomics	19
Local and Regional Economies:	19
<i>Affected Environment</i>	19
<i>Environmental Consequences</i>	19
4.5 Refuge Resources.....	19
Visitor Use and Experience:	19
<i>Affected Environment</i>	19
<i>Environmental Consequences</i>	20
Management, Operations, and Administration:	20
<i>Affected Environment</i>	20
<i>Environmental Consequences</i>	20
4.6 Reasonably Foreseeable Impacts with Close Causal Relationships.....	21
4.7 Summary of Analysis.....	21
Alternative A – Status Quo – No Action Alternative	21
Alternative B – Holmes Lake Restoration– Preferred Alternative	21
Chapter 5: List of Preparers and Sources	22
5.1 List of Preparers	22
5.2 List of Sources Consulted	22
References	22
Appendix A: Applicable Statutes and Executive Orders	24
Appendix B: Figures	28
Appendix C: Summary of Comments.....	35
Appendix D: Finding of No Significant Impact (FONSI)	36

Executive Summary

This environmental assessment evaluates the effects associated with the proposed action and a “no action alternative”. The proposed action would reroute a portion of the Judicial Ditch #46 system by exchanging rights with Martin County's previously held statutory right-of-way and restore a 121-acre shallow lake basin at the Holmes Lake Waterfowl Production Area. The proposed action would be achieved by establishing a new easement for the county drainage system as well as tree removal, tile removal, soil scrapes, and construction of berms and an outlet structure. The no action alternative would leave the 121-acre basin drained. Restoring the hydrology of the shallow lake basin would result in substantial improvements to the ecology of the WPA and have positive downstream impacts in the watershed.

The following resources were analyzed in the environmental assessment: natural resources, cultural and historic resources, socioeconomics, and Refuge resources impacts (see Chapter 4 for more information). Several other resources were initially considered by the U.S. Fish and Wildlife Service but were ultimately dismissed from further analysis because neither the proposed action nor its alternatives would have the potential to result in measurable impacts to these resources.

Based on the analysis presented in the environmental assessment and coordination and/or consultation with all appropriate federal, state and local agencies as well as all pertinent federally recognized Native American Tribes, the U.S. Fish and Wildlife Service has determined that the impacts associated with the proposed action and its alternative would not have a significant impact on the quality of the natural and human environment.

The draft EA was made available for public comment from April 15th, 2026 to June 14th, 2026. Public comments and agency responses are available in Appendix C of this environmental assessment.

Certification Statement: This environmental assessment has been developed pursuant to the National Environmental Policy Act (NEPA; 42 U.S.C. 4321 et seq.), the Department of the Interior NEPA (DOI) NEPA Regulations (43 CFR 46), the U.S. Department of the Interior Handbook of NEPA Implementing Procedures (516 DM 1), the Service policy (550 Service Manual, or FW), and other applicable Federal and State laws and regulations.

Chapter 1: Introduction

1.1 Background

National Wildlife Refuges are guided by the mission and goals of the National Wildlife Refuge System, the purposes of an individual refuge, federal laws and executive orders, U.S. Fish and Wildlife Service policy and international treaties. Relevant guidance includes but is not limited to the National Wildlife Refuge Administration Act of 1966, as amended by the National Wildlife Refuge System Improvement Act of 1997 (16 United States Code [U.S.C.] 668dd et seq.), the Refuge Recreation act of 1962 and selected portions of the Code of Federal Regulations and the U.S. Fish and Wildlife Service manual.

“... to administer a national network of lands and waters for the conservation, management and, where appropriate, restoration of the fish, wildlife and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.”

Windom Wetland Management District was established in 1990 for the purpose of increasing waterfowl production and to preserve habitat for migratory birds, threatened and endangered native species and resident wildlife. Wetland Management Districts (WMD) are the federal administrative units charged with acquiring, overseeing, and managing WPAs and easements within a specified group of counties. Windom WMD is managed by the Service as part of the National Wildlife Refuge System (NWRS or System). In addition to the NWRS mission, Minnesota WMDs created the following vision statement during the development of Comprehensive Conservation Plans that ties districts together with a cohesive purpose: “The Districts will emphasize waterfowl production and ensure the preservation of habitat for migratory birds, threatened and endangered native species, and resident wildlife. The Districts will provide opportunities for the public to hunt, fish, observe, and photograph wildlife and increase public understanding and appreciation of the Northern Tallgrass Prairie Ecosystem.”

Key legal provisions are described below:

1. The Migratory Bird Conservation Act was established in 1929 (45 Stat. 1222), as amended, (16 U.S.C. 715d, 715e, 715f, to 715k and 715l to 715r). The Act provides for the acquisition of lands determined to be suitable as an inviolate sanctuary for migratory birds.
2. The Migratory Bird Hunting Stamp Act (Duck Stamp Act) of 1934, as amended in 1958 (16 U.S.C. 718-718h). The Act authorized the “...acquisition by gift, devise, lease, purchase, or exchange of, small wetland pothole areas, interest therein, and right-of-way to provide access thereto. Such small areas to be designated as ‘Waterfowl Production Areas’, may be acquired without regard to the limitations and requirements of the Migratory Bird Conservation Act.” “...As Waterfowl Production Areas” subject to “...all of the provisions of such Act...except the inviolate sanctuary provisions...” 16 U.S.C. 718c (Migratory Bird Hunting and Conservation Stamp).

3. Mandate for Farmers Home Administration (FmHA) Easements and Fee Title Transfers. "...for conservation purposes..." 7 U.S.C. at 2002 (Consolidated Farm and Rural Development Act)

The Holmes Lake Waterfowl Production Area (WPA) is located in Martin County, MN in Section 35, Manyaska Township (T102N R32W) and Section 2, Lake Belt Township (T101N R32W) between Fox Lake and Lake Okamanpedan. This is a region with multiple drained lakes, historically called Manyaska Lakes. These lakes were ditched in the early 20th century with the goal of increasing agricultural productivity. Holmes Lake was drained with the establishment of the JD 46 system in 1915 with construction being completed in 1917. Land-use after this point consisted primarily of agricultural use and row crop production. Within the region, over 99% of the original prairie and over 90% of the wetlands have been plowed and drained, primarily for production agriculture.

1.2 Proposed Action

The U.S. Fish and Wildlife Service is proposing an action to restore a 121-acre shallow lake basin (formally known as East Holmes) on the Holmes Lake Waterfowl Production Area. The 205-acre WPA was donated to the Service by Pheasants Forever in 2015 with the intent of restoring the lake basin. Project work would also include restoration within a privately owned parcel of land that is encumbered by a Farmers Home Administration (FmHA) easement (Martin 17C). This action is being proposed to meet goals outlined in the Windom WMD's Habitat Management Plan (HMP) and meet the mission of the District to provide habitat for waterfowl production and preservation of migratory birds.

A proposed action is an initial proposal and may evolve during the development of alternatives, the impact analysis and public involvement. This environmental assessment may determine that there are other, better or less impactful ways to address the purpose and need and may become the preferred alternative. The proposed action and alternatives may change during the NEPA process as the agency refines its proposal and gathers feedback from the public, federally recognized Tribes and Tribal entities and other agencies or organizations. Therefore, the final action may be different from the originally identified preferred alternative and will be finalized at the conclusion of the public comment period after the incorporation of substantive comments. A decision to implement a proposed action will not be made until the environmental review process is complete.

1.3 Purpose and Need for Action

The purpose of this proposed action is to evaluate the impacts of restoring a large, drained shallow lake within the Holmes Lake Waterfowl Production Area and the impact to the local hydrology.

The need for the proposed action is to meet the Service's priorities and mandates as outlined by the National Wildlife Refuge System Administration Act (NWRSA) to "provide for the conservation of fish, wildlife, and plants, and their habitats within the System" in addition to

“ensuring the biological integrity, diversity, and environmental health of refuges is maintained” (16 U.S.C. 668dd(a)(4)).

Restoring the historic, natural hydrology of the shallow lake basin creates habitat for migratory waterfowl. Additionally, the proposed action is needed to build resiliency into the landscape and accommodate the increased frequency of large precipitation events and drought predicted in the region. The basin will also function as a sink for nutrients, helping to decrease loading to downstream waterbodies.

Chapter 2: Involvement, Coordination and Consultation

2.1 Public Involvement

This draft environmental assessment will be available for public review and comment for 60 days from April 15th to June 14th, 2026. The draft document will be made available at the Windom WMD headquarters at 49663 County Road 17, Windom, MN, via email WindomWMD@fws.gov, and can be downloaded from the refuge website at <https://www.fws.gov/refuge/windom-wetland-management-district>. For access to the document in an alternative format contact the refuge. Comments may be submitted in writing via email or by mail to the Windom WMD headquarters. Any comments, concerns, suggestions or other feedback will be incorporated into the final environmental assessment if a substantive response is required.

Before including your address, phone number, email address or other personal identifying information in your comment, you should be aware that your entire comment, including your personal identifying information, may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

2.2 State and Local Coordination

The Service is coordinating with the Martin County Highway Department on any actions that may take place near the county road that bisects the shallow lake basin and the Martin County Drainage Department on the rerouting of Judicial Ditch #46

This Environmental Assessment was provided to the MN Department of Natural Resources, Windom area office, for comment.

2.3 Tribal Consultation

While this project won't directly impact Native American Tribes or Tribal lands, the Service coordinated outreach with Federally Recognized Tribes that have an interest in Martin County. The Tribal Historic Preservation Offices were sent a draft copy of the Environmental Assessment and welcomed to comment before and during the public comment period.

Chapter 3: Alternatives

3.1 Decision Framework

The Regional Director in Region 3 of the U.S Fish and Wildlife Service will make two decisions based on this environmental assessment once the review process is complete. They will: (1) select an alternative for the refuge, and (2) determine if the selected alternative is a major federal action that would significantly affect the quality of the human and/or natural environment, and therefore, require the preparation of an environmental impact statement. The Windom Wetland Management District recommends Alternative B: Holmes Lake Restoration to the Regional Director.

3.2 Alternatives

Alternative A – Status Quo – No Action Alternative

Under the No Action alternative, Windom WMD would not implement restoration of the 121-acre shallow lake basin on Holmes Lake Waterfowl Production Area. The basin would remain in its currently drained state. Martin County would likely need to repair Judicial Ditch (JD) #46 to ensure functioning drainage for the neighboring landowners. Martin County would need to apply for a Special Use Permit from the Windom WMD for any repair work that would occur on Refuge lands.

Alternative B - Holmes Lake Restoration - Preferred Alternative

Under the Preferred Action alternative, the Service would grant an easement to Martin County to reroute and modify portions of JD #46 on the Service's land to serve the preferred interests of all parties. The rerouting of the county tile is necessary to restore the historic, hydrological function to the 121-acre shallow lake basin and adds water storage capacities to the Service lands. The service would partner with Ducks Unlimited (DU) to implement construction that would restore the lake based on DU engineering designs (figure 4). This would include tree removal, tile removal, tile abandonment, tile rerouting, soil scrapes, and construction of berms and an outlet structure. DU is the project sponsor and has secured funding from the Outdoor Heritage Fund (OHF), North American Wetlands Conservation Act (NAWCA), and donations from members and major sponsors.

Martin County has a statutory drainage right under the Minnesota Drainage Code (Minnesota Statutes Chapter 103E) that predates the Services acquisition. In the drainage system's current alignment, Martin County, as the drainage authority, still maintains the right of entry to inspect and maintain the ditch system as obligated by this statute. The county is legally obligated to provide drainage to landowners that use the system. Therefore, before it can abandon the preexisting drainage rights, it would require assurance that the Service will grant a formal, perpetual easement with conditions equivalent to those existing rights in exchange for abandoning the County's existing drainage rights. The new easement is necessary to facilitate the shallow lake restoration and will reduce the area the drainage system encumbers on Holmes Lake WPA.

The proposed action would include rerouting and modifying branches of existing county drainage systems (X, B, B1, B2, and portions of the Main branch; see figures 5-8). Additionally, branch A would be abandoned, and the Main branch partially abandoned. Only branch X, small portions of the Main branch, and branch B will remain on service land, as B1 will be rerouted off the Holmes Lake Waterfowl Production Area onto a neighboring property. The project would involve installation of non-perforated tile lines outside of the existing county drainage system's statutory right-of-way. As such, the project would require the Service to grant a perpetual easement to Martin County to allow for continued operations of the county drainage system. Approximately 2,500 linear feet of non-perforated tile would be installed within the Holmes Lake WPA as part of this project component. Through this exchange of easement drainage rights, the county would be granted a 50' easement on both sides of the centerline of their tile (100' total) to maintain, repair, and operate JD 46. The newly established easements would encumber 5.15 and 0.77 acres on the Holmes Lake WPA as well as 3.04 and 5.02 acres on private land. In exchange, the county would agree to abandon 7,750 feet of existing linear ROW, most of which is located within the Holmes Lake WPA.

Multiple private tile lines would also be modified to facilitate existing drainage of adjacent lands. There would be a 3,200 foot line routed through the WPA to avoid the Holmes Lake basin, outletting just below a water control structure to ensure there are no impacts to the drainage of private lands. There would also be five private lines (and any other found during construction) surface outletted on the edge of the basin or tied into the new lines.

The tile installation on the WPA would take place on existing grassland, which were formerly agricultural areas. The county tile would be installed by linear trench or ditch excavation and would involve spoil piles, surface disturbance, and associated heavy equipment compaction from tracking. Impacts to vegetation would require reseeding of disturbed areas with seed mixtures similar to surrounding vegetation. Aftercare such as clipping and weed control would need to be completed. It is expected that the vegetation would recover within one to two growing seasons.

In addition, soil scrapes, construction of berms, a road raise, and a water control structure would be required for management of the shallow lake. All construction activities would take place on former and current agricultural land. Drain tile would be removed and/or disabled and left in the ground in a nonfunctional manner as part of the restoration. A water control structure and earthen dikes (~4'-5' max height with 10:1 side slopes) would be constructed to regulate and manage water levels within the shallow lake. County Road 123, which bisects the lakebed, would be raised to an elevation of 1247' across 1,350 feet. The main portion of the lift would raise the road approximately 10" to 15" over 550' in length. A new 36" cement culvert would replace an old 30" culvert. The proposed borrow site for the dikes and road raise is shown on figure 3 and 4. A drawdown channel with 10:1 side slopes would be constructed to allow water to be released from the lake for management purposes.

Some construction related activities, such as the building of berms and modification of drain tile, will occur on an adjacent FmHA easement west of the WPA and the neighboring agricultural lands. Additionally, some spoils from the borrow areas may be placed along the northwest shoreline to limit water ponding over the property line. The fringes of the large shallow lake would be seeded with a wetland seed mix upon completion of the project. Seeding of the wetlands may require shallow disking to smooth out the areas disturbed by construction activities. See figures 3 and 4 for summarized engineering design plans and descriptions. The USFWS would obtain all required permits and ensure all property rights, rights-of-way, and flowage easements that may be needed for the lake restoration are recorded in writing.

The drained lake basin has currently grown up in small trees since it was acquired in 2015. These would need to be removed to accomplish work on the tile reroute and removal. Private contractors would remove trees on Holmes Lake WPA with machinery and/or by hand as directed by the land manager through site specific instructions. Cut stumps would be treated with a USFWS approved chemical to prevent regrowth. Follow up applications may be required. Tree cutting cannot be conducted during the primary nesting season or May 15 - August 1.

More detailed plans for modifications will be included in the project petition. Contact the Windom Wetland Management District for more details. The plans include:

- replacing with perforated tile J.D. 46 Main from approximately st 7+00 to 24+00 at flatter grade to facilitate daylight into Holmes Lake basin at 1244 ft elevation;
- abandoning J.D. 46 Main from st 24+00 to 53+00;
- abandoning J.D. 46 Branch A from st 0+00 to 20+00;
- abandoning J.D. 46 Branch B from st 0+00 to about st 10+00;
- modifying J.D. 46 Branch B from st 10+00 to 33+00 by slightly realigning for constructability and raised elevation to allow daylight near st 10+00 at elevation 1244 into Holmes Lake basin;
- rerouting J.D. Branch B1 entirely to flow west into Main branch at about st 22+00 which will allow those waters to daylight into Holmes Lake;
- rerouting J.D. Branch B2 entirely to reconnect to Branch B which will allow those waters to daylight into Holmes Lake;
- rerouting of J.D. 46 Branch X to run along the lake shore as non-perforated tile, flowing into main branch at st 55+50;
- a section of private tile which currently enters J.D. 46 Main Branch at st 47+00 will be rerouted along the lake shore as non-perforated tile, flowing into J.D. 46 Main Branch at st 55+50;
- a public junction box structure will be placed just upstream of J.D. 46 Main Branch st 55+50 to gather lake overflow, rerouted Branch X, and rerouted private line; a private water control structure will be placed at current J.D. 46 Main Branch st 53+00 and will outlet into the junction box at st 55+50. The USFWS will utilize the structure for wetland management when conditions allow.

Monitoring Applicable to All Alternatives

Holmes Lake WPA is routinely monitored for changes in vegetation, invasives species, and other potential damage.

Chapter 4: Affected Environment and Environmental Consequences

The affected environment describes those portions of the natural and human environment that could be affected with the implementation of any of the management alternatives. This section is organized by affected resource categories. Each affected resource discusses both (1) the existing environmental or socioeconomic baseline in the action area and (2) the reasonably foreseeable effects of the alternatives on each resource. The terminology “reasonably foreseeable effects” is used throughout and refers to effects that are sufficiently likely to occur and that encompass both the direct and indirect effects of the action as well as effects of the action when combined with other potential past, present, and future effects.

The following terminology is used throughout this section and the environmental assessment to help describe the reasonably foreseeable effects of the proposed action and the reasonable range of alternatives:

- Beneficial effect – those impacts to the human environment that provide desirable situations or outcomes.
- Negative effect – those impacts to the human environment that provide an undesirable situation or outcome.
- Negligible effects – slight impacts that would not typically be detectable and in some instances, may also not be observable.
- Minor effects – impacts that are detectable, and in some instances, observable, but that would not approach a threshold of significance as defined in the NEPA section 102(2)(C) or FWS Policy (550 FW 3).
- Moderate effects – impacts that are detectable, and in some instances, observable and that approach but do not reach or exceed a threshold of significance as defined in the NEPA section 102(2)(C) or FWS Policy (550 FW 3).
- Short-term effect – a known or potential effect of limited duration, relative to the proposed alternative and the resource impacted. For the purposes of this analysis, these impacts may last anywhere from a few minutes to a few months depending on the context of the effect but not more than a year.
- Long-term effect – a known or potential effect of extended duration, relative to the proposed alternative and the resource impacted. For the purposes of this analysis, these improvements or disruptions to a given resource would last a year or longer.

Effects that are speculative (i.e., there is a remote possibility that the impact would occur, but no meaningful information exists on which to base a prediction) or indefinite will not be included.

4.1 General Description of Affected Environment Applicable to All Affected Resources

Holmes Lake Waterfowl Production Area is located in Martin County, Minnesota and is 206 acres in area. Adjacent to it is an FmHA easement that is 43 acres in size (see figure 2). The WPA and easement consist of wetland, grassland, and oak shoreline. The proposed action will predominantly occur in the lake basin with some drain tile and wetland restoration construction work in the upland area. Additionally, some work would occur on neighboring private crop ground. (see figures 3-4).

The following resources either (1) do not occur in the project area or (2) would either not be affected or only negligibly affected by the proposed action.

- Air Quality – air quality in the region is good and the proposed action would have negligible, short-term, localized impacts due to exhaust from heavy machinery emissions and dust from earth work during restoration construction. However, this impact will not differ drastically from impacts of agricultural equipment being used on similarly situated lands in the area.
- Soundscape – the area is rural and generally quiet. The only additional noise the project would add is during construction from heavy machinery. This would only be temporary and would be consistent with levels from farming machinery in the area.
- Special Land Designation - Does not occur in an area with special designations.

4.2 Natural Resources

Habitat and Vegetation (including vegetation of special management concern):

Description of Affected Environment for the Affected Resource

The vegetation communities on Holmes Lake WPA consist of restored prairie, wetlands, and some bur oak shoreline. Wetlands on the refuge are currently drained by an extensive network of drainage tile that is connected with JD #46 system. The altered hydrology has made it difficult to maintain native vegetation and has areas of reed canary grass and shrubby trees. The area adjacent to the WPA and FmHA easement is dominated by row crop agriculture.

Environmental Consequences: Trends, Planned Actions and Impacts of Affected Resource

Monitoring of habitat and vegetation is a key component of understanding progress towards habitat objectives that are described in the HMP. This can describe the trajectory of a given habitat type and inform management needs. This may include prescribed burning, invasive species control through mechanical or chemical means, or reseeding areas that need more diversity.

Regardless of the chosen alternative, invasive species are a continual management concern within the project area. Reed canary grass is a common, non-native grass species to wetter areas on the WPA. Methods to manage this species include practices such as prescribed fire, haying, hydrologic restoration, or water level manipulation. Reed canary grass currently dominates the wetter portions of the site.

Alternative A

Under the status quo, reed canary grass would likely remain dominant in the wetter portions of the site and may continue to expand. Trees within the basin would continue to be an issue and need repeated management.

Alternative B

Under this alternative, restoring the natural hydrology of the drained basin would turn the reed canary dominated wetland back to a natural permanent wetland or shallow lake. This would promote habitat for aquatic vegetation, sedges and rushes, and associated wildlife. The Windom WMD HMP discusses numerous benefits to restoring this type of basin and how to manage them for increased biodiversity (USFWS 2015).

Disturbance from the ROW reroute and tile removal would impact prairie vegetation during construction activities and likely cause some soil compaction from tracking of heavy equipment. However, the site would be reseeded to native vegetation and re-establish within 1-2 years.

Wetlands:

Affected Environment

Over 90% of wetlands in the region have been drained since the turn of the 20th century. Historically, Holmes Lake would have been a permanent wetland or shallow lake. In its current state, the wetland is dominated by reed canary grass and holds water only during heavy rainfall or spring runoff events.

Environmental Consequences

Wetlands on the WPA and FmHA easement will be preserved in perpetuity; however, wetlands on surrounding lands will likely continue to be drained for agricultural uses.

Alternative A

Under the status quo, the basin currently only fills during large rain events. The area was purchased by the Service in 2015 due to the propensity of the basin to drown out cropland due to insufficient drainage capacity.

Alternative B

Under the preferred alternative, the wetland will be restored to its historic and natural hydrology by disabling drain tile and constructing berms and an outlet structure. This direct impact on hydrology will have long-term positive impacts including increases in water storage, improved water quality, and reductions in flooding, among others. Increased water storage on

the WPA would alleviate pressure on the county drainage system and provide relief for landowners using the drainage system. The rerouted easement paths will also avoid the lakebed, whereas the old routes ran through the lakebed, thus another positive impact to eliminate future disturbance to wetlands. Additionally, the inundation of the basin will help reduce the amount of reed canary grass on the WPA. This form of management is described in the HMP (USFWS 2015).

Wildlife and Aquatic Species:

Affected Environment

The Holmes Lake WPA is currently being managed for grassland nesting birds, migratory birds, migratory waterfowl, marsh water birds, and resident wildlife species. The current shallow lakebed is dominated by scrubby trees. Thick stands of reed canary grass choke out native aquatic plants, providing poor habitat for native wildlife species.

Environmental Consequences

Local connectivity with surrounding habitats and nearby agricultural land practices has an impact on regional wildlife and isn't expected to change in the short term. Habitat for aquatic species is also limited by surrounding land use, due to drainage of nearby wetlands.

Alternative A

In its current drained state, the Holmes lakebed does not function as optimal wetland habitat and has limited wildlife use. It does not provide quality habitat for wetland birds such as rails, marsh wrens, waterfowl, or bitterns. However, it will continue to provide habitat for terrestrial wildlife such as deer, pheasants, and some grassland birds.

Alternative B

Habitat on the 121 acres will be available to migrating and resident waterfowl, marsh birds, etc. There will still be available upland on the refuge for waterfowl nesting, upland birds, and other terrestrial wildlife. The wetland will also create habitat for benthic invertebrates that provide sustenance for wildlife. Short and long-term impacts to vegetation and wetlands, disturbance from construction and subsequent maintenance will likely cause temporary and negligible localized displacement of wildlife to other parts of the unit or to other suitable habitats. Long-term impacts are not expected as a result of the project.

Candidate, Threatened and Endangered Species, Critical Habitat, and Special Status Species:

Affected Environment

No federally threatened or endangered species are known to currently exist on the Holmes Lake WPA. The USFWS Information for Planning and Consultation (IPaC) tool was used to identify federally listed species whose range may overlap Holmes Lake WPA. Species on the list include:

Monarch Butterfly (*Danaus plexippus*): Monarch butterflies are currently a Federal Candidate for listing. Monarch numbers have been declining across North America over the past two

decades. An extensive status assessment was completed by the U.S. Fish and Wildlife Service in 2020, which determined that listing the monarch under the Endangered Species Act is warranted but precluded by work on higher-priority listing actions at that time. Widespread habitat loss and fragmentation is believed to be one of the contributing factors of the species decline. Monarchs rely on milkweed species as their obligate host plant to lay eggs on. Monarch butterflies have a high probability of occurring in upland areas, but current habitat conditions do not provide adequate habitat to support high numbers of monarchs. The majority of the drained basin consists of shrubby trees and reed canary grass.

Bald Eagle (*Haliaeetus leucocephalus*) Bald eagles are protected under the Bald and Golden eagle Protection Act and the Migratory Bird Treaty Act. Holmes Lake WPA contains an active bald eagle nest. Guidelines that will be followed can be found at <https://www.fws.gov/program/eagle-management>

No critical habitats were identified by the IPaC tool.

Environmental Consequences

USFWS has developed recovery plans for listed wildlife in the area. These plans provide managers with conservation strategies on how to best manage species and their habitats. These plans provide details on species populations, conservation objectives, and habitat requirements, and critical habitat areas to protect and preserve these species. The WPA will be managed for the benefit of threatened and endangered species. Compliance under Section 7 of the Endangered Species Act has been completed for the project area.

Alternative A

Under the no action alternative, there is expected to be little, to negligible impacts on threatened and endangered species on Holmes Lake WPA. The status quo does not include changes to the current habitats on the WPA. Indirectly, habitat on the site may continue to degrade under certain scenarios that create more unstable hydrology on the site.

Alternative B

Indirectly, restoring the basin will provide ideal foraging habitat for bats in general due to the lake providing habitat for flying insects. This may also provide benefits to bald eagles as there will be a greater diversity of wildlife for them to prey on. The forested part of the WPA will not be impacted by construction activities and any work around the eagle nest will occur after nesting season. Additionally, the scrubby trees growing in the basin are too small to provide any resources for bats or eagles.

The project is expected to have negligible impacts to monarch as the basin is marginal habitat due to it being dominated by reed canary grass (*Phalaris arundinacea*) and scrubby trees.

Geology and Soils:

Affected Environment

The WPA contains a 121-acre lakebed created during the Wisconsin glaciation by the Des Moines Lobe. This glacial event formed ground moraines with many depressional wetlands and lakes. The dominant soil on the WPA is Blue Earth mucky silt loam. This soil is very poorly drained and formed under shallow lake conditions. In an undrained system the water table would remain at the surface. Parent material of soils is loamy till and coarse loamy outwash with wet prairie being the historic plant community that formed on these soils (NRCS).

Environmental Consequences

Soils on Holmes Lake WPA have experienced disturbance and erosion from historic agricultural tillage. Prior completed projects working to restore the WPA to native prairie have reduced this loss and will help rebuild soil over time.

Alternative A

Under the status quo alternative, soil may continue to move downstream through drain tile. Additionally, the drainage of the soil may reduce the capacity of the WPA to sequester carbon in future years due to lower moisture content leading to more oxidative processes in the soil.

Alternative B

Restoration of the shallow lake will increase ponding duration of the soil. Studies have shown that permanent wetlands have the capacity to increase storage of soil organic carbon (Nahlik 2016). Construction activities will likely have marginal impacts on soil structure, as soils where restoration activities will occur have a low susceptibility to compaction. Indirect impacts due to increased water storage may result in less erosion in downstream waterways.

Water Resources: Water Quality, Hydrology, and Floodplains

Affected Environment

Holmes Lake WPA is currently drained by an extensive drainage network, that draws down surface water and sends it downstream via the JD #46 drainage network. There are currently no FEMA floodplain maps for the area. The catchment area for the shallow lake basin is roughly 950 acres with historic wetlands in the upland areas accounting for around 10% of the watershed land. These wetlands now drain through the JD# 46 system that runs under the lakebed on Holmes Lake.

Environmental Consequences

Water resources in the region have shown decline over the years (MPCA 2021). Without additional water storage in the watershed, water quality will likely continue to decline. This is due to increased drainage of agricultural land which increases the speed water enters natural waterways, contributing to erosion and nutrient loading. Restoring wetlands that are currently connected to drainage systems will help mitigate this process.

Alternative A

Under the status quo, the project area will maintain artificial drainage. This area may flood during large precipitation events but will not hold water permanently. Because the basin outlets to the Des Moines River, this area will contribute to downstream flooding in the future, due to increased drainage in the watershed overtime.

Alternative B

Under the preferred alternative there would be many long-term positive benefits including increased water storage, flood reduction, and increased water quality. Holmes Lake WPA has the potential to store 363-484 acre-feet and treat water from nearly 1,000 acres (figure 2). This increased water storage may also help mitigate large rain events and reduce downstream flooding due to the increased storage capacity. Additionally, storing water on Holmes Lake and keeping it out of the JD #46 drainage system may help prevent stream bank erosion within the East Fork of the Des Moines River channel (figure 1). Studies show that watersheds with extensive agricultural drainage are correlated with increased river flows and that these rivers experience widening of channels by 10%-40%. This in-stream erosion is a large source of sediment moving downstream (Schottler et al. 2014).

Shallow Lakes act as nutrients sinks by capturing agricultural run-off such as nitrogen and phosphorus. The Des Moines River Watershed Comprehensive Watershed Management Plan (Houston Engineering) estimates that large wetlands in the watershed can reduce total nitrogen by 64.1 lbs./year, total phosphorus by 2.4lbs./year, and sediment by 21.8 lbs./year. Being a shallow lake, the reduction in nutrients is anticipated to be even higher. This will have beneficial, indirect impacts to downstream water quality in the East Fork of the Des Moines River and Lake Okamanpeedan, a lake with high recreational value.

The project will also help meet the Des Moines River One Watershed One Plan 10-year goal for restoring 150 acres of wetlands and adding 17,000ac/ft of water storage in the East Fork watershed by 2032 (Houston Engineering).

4.3 Cultural and Historic Resources

Archeological Resources:

Affected Environment

District staff have consulted with the regional archeologist to ensure work is compliant with Section 106 of the National Historic Preservation Act. Most project work will be conducted within a historic wetland and the proposed action is limited to areas with historic disturbance from agricultural cultivation. There are no known historic properties or architectural sites nearby.

However, out of abundance of caution, a phase 1 archeological survey will be conducted in key areas where construction disturbance will occur. This process will be conducted in accordance with the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation, as amended and annotated, and the "State Archaeologist's Manual for Archaeological Projects in Minnesota". All work shall be performed by or under the guidance of

a professional archaeologist, meeting the Secretary of Interior's Professional Qualification Standards for Archaeology. As of December 2024, outreach with Tribal nations for the issuance of an ARPA permit has been conducted. Phase 1 survey work is expected to be completed in the Spring of 2026. If any cultural resources are found during the survey, tile alignments will be modified to avoid identified areas.

Environmental Consequences

No relevant trends exist.

Alternative A

Under the status quo alternative there would be no effect on cultural resources as no construction activities are proposed.

Alternative B

There are currently no known historic sites located within the project area. Additionally, the proposed action will be limited to areas with past agricultural disturbances.

4.4 Socioeconomics

Local and Regional Economies:

Affected Environment

Martin County is largely a rural area with agriculture being the main industry. Waterfowl, deer, and pheasant hunting bring in tourism from outside the region. According to the MNDNR 2023 annual report, the region around Holmes Lake brought in 1290 firearm hunters, 287 muzzleloader hunters, and 392 archery hunters.

Environmental Consequences

At this time, there are no known trends that would impact the local economy.

Alternative A

Under the status quo the WPA would continue to provide hunting opportunities for deer and pheasant, which brings people from outside the region.

Alternative B

Under the preferred alternative, Holmes Lake would provide long-term outdoor recreational benefits through waterfowl hunting opportunities and wildlife viewing and potentially bring additional outdoor recreational users to the area.

4.5 Refuge Resources

Visitor Use and Experience:

Affected Environment

Holmes Lake WPA offers hunting opportunities and wildlife viewing for the public. Historically, hunters have accounted for more than half of all visits to WPA's in the Windom Wetland Management Districts. Currently, Holmes Lake mostly provides deer and pheasant habitat.

Environmental Consequences

At this time there are no known trends impacting visitor use on the WPA.

Alternative A

Under the status quo alternative, user's experiences at the WPA would remain unchanged.

Alternative B

Under the preferred alternative, Holmes Lake WPA would provide new hunting opportunities of waterfowl, in addition to deer and pheasant. It would also increase opportunities for bird watching as it would provide habitat to migratory waterfowl.

Management, Operations, and Administration:

Affected Environment

Details on management of the District's resources can be found in the HMP (USFWS 2015). Typical management of WPA's includes prescribed fire, mowing, invasive species management, woody vegetation removal, and water level management. Additionally, Martin County has the statutory right to access the JD #46 system to repair, inspect, and maintain drainage infrastructure.

Environmental Consequences

At this time there are no known trends that would impact current management and operations on the WPA.

Alternative A

Under the status quo, long-term repairs to the JD #46 system would be needed. These repairs would only impact the WPA while repairs are being made. Generally, conflicts will be of short duration while maintenance activities are taking place and typically isolated to a portion of a single administrative unit. Management and control of trees may be ongoing due to the altered hydrology in the drained basin.

Alternative B

The negative impacts of drainage system maintenance in the proposed ROW are negligible and not anticipated to adversely impact management of wildlife, habitats, cultural resources, or public recreational opportunities on Waterfowl Production Area. The proposed action would reduce any maintenance needs by abandoning portions of the drainage system that runs through the WPA. Additionally, the proposed action would change the amount of surface water on the refuge.

Additionally, the HMP (2015) promotes administration to implement large wetland restorations wherever possible on Service land. This includes restoring natural hydrology by removing, replacing, and/or rerouting drainage tile and constructing dikes and water control structures. More information on shallow lake management can be found on pages 99-101 and appendix H of the HMP.

4.6 Reasonably Foreseeable Impacts with Close Causal Relationships

Abiotic Resources

Hydrology, sediment transport, and nutrient cycling are the main abiotic resources influenced by the shallow lake restoration. Over time, as vegetation communities recover, Holmes Lake will be able to cycle nutrients from its catchment area and store more carbon in the mucky soils. This is accomplished by rewetting soils, which reduces oxidative processes. Additionally, hydrological connectivity may increase due to more water infiltration from restored wetlands recharging local groundwater fed systems (Schilling et al. 2024).

Biological Resources

The ability to permanently store water on the landscape will lead to changes in biological resources on the WPA. Restoring the basin will lead to increased habitat diversity and provide niches for aquatic plants and insects to return. Restoration of these resources will increase habitat and food resources for resident waterfowl and migratory birds.

Community Resources

Water quality and flooding are examples of reasonably foreseeable impacts that occur downstream of the WPA. While declining water quality and increases in flooding are hard to attribute to a single area of a drainage system, adding up the impacts to all areas within the watershed leads to measurable declines in water quality and flooding downstream. Every bit of water held on the landscape has a cumulative, positive benefit downstream.

4.7 Summary of Analysis

Alternative A – Status Quo – No Action Alternative

As described, the status quo alternative would result in the continued drainage of the shallow lake basin and there would be no changes to the counties statutory ROW. The drainage system will continue to send water and nutrients off the WPA and downstream, contributing to flooding and influencing water quality downstream. The increased frequency of large precipitation events is expected to worsen flooding within the Holmes Lake catchment area and contribute to downstream flooding risks.

Alternative B – Holmes Lake Restoration– Preferred Alternative

Under the Holmes Lake Restoration alternative, the Service would coordinate with Martin County and grant them an easement to modify and reroute the existing JD #46 drainage system. This would allow for the restoration of Holmes Lake and give adjacent landowners improved drainage, while also being able to treat water before it moves downstream to the East Fork of the Des Moines River. This restoration also has the capacity to boost environmental resilience within the Windom Wetland Management District by storing water and potentially sequestering atmospheric carbon. The alternative will also help the District meet the purpose of the U.S. Fish and Wildlife service to provide and restore habitat for migratory birds and the production of waterfowl.

Additionally, the issuance of a perpetual easement to reroute a portion of the existing county judicial drainage system on Holmes Lake Waterfowl Production Area will not materially interfere with or detract from the fulfillment of the National Wildlife Refuge System or the purposes for which the unit was established. The easement would not conflict with the national policy to maintain the biological diversity, integrity, and environmental health of the refuge. The project will benefit many stakeholders, including the Service. Minor impacts that will be temporary and minimal are expected as part of this project. The proposed use will not diminish the long-term productivity of wildlife habitat and other resources or opportunities for public recreation and enjoyment.

Chapter 5: List of Preparers and Sources

5.1 List of Preparers

Davis Harder – Associate Biologist – The Nature Conservancy

Jonathan Beyer – Project Leader – Windom WMD

Kimberly Emerson – Wildlife Biologist – Windom WMD

5.2 List of Sources Consulted

James Myster – Regional Historic Preservation Officer – U.S. Fish and Wildlife Service

Linda Naunapper – Archaeologist - U.S. Fish and Wildlife Service

Allison Smart – Native American Liaison – U.S. Fish and Wildlife Service

Jake Chronister—Ducks Unlimited

Martin County Highway Department

Martin County Drainage Department

References

Houston Engineering. 2023. Des Moines River Watershed Comprehensive Watershed Management Plan. Accessed Online from:
murraycountymn.com/county_departments/environmental_services/desmoinesriver.php

MnDNR (2023). Deer reports and statistics. Accessed 7/21/24 from: [Deer reports & statistics | Minnesota DNR \(state.mn.us\)](https://www.dnr.state.mn.us/dec/reports/)

MPCA (2021). Des Moines River Basin Watersheds WRAPS Summary. Accessed 2/18/25 from: <https://www.pca.state.mn.us/sites/default/files/wq-ws4-52b.pdf>

Minnesota Statutes. 2023. Chapter 103E Drainage. www.revisor.mn.gov/statutes/part/WATER

Nahlik, A.M. and M.S. Fennessy. 2016. Carbon Storage in U.S. Wetlands. *Nature Communications* 7:13835.

Natural Resources Conservation Service (NRCS), Soil Survey Staff, United States Department of Agriculture. Web Soil Survey. Accessed 07/15/24 from:
<https://websoilsurvey.nrcs.usda.gov/app/>

Schilling, K.E., Streeter, M.T., Kerr, P. et al. (2024). Hydrogeology and Groundwater Flow in a Hummocky Prairie Pothole Complex, Northern Iowa. *Wetlands* 45, 3 (2025).
<https://doi.org/10.1007/s13157-024-01886-5>

Schottler, S.P., Ulrich, J., Belmont, P., Moore, R., Lauer, J.W., Engstrom, D.R. and Almendinger, J.E. (2014), Twentieth century agricultural drainage creates more erosive rivers. *Hydrol. Process.*, 28: 1951-1961. <https://doi.org/10.1002/hyp.9738>

USFWS. 2003. Windom Wetland Management District Comprehensive Conservation Plan and Environmental Assessment. Accessed online: ecos.fws.gov/ServCat/DownloadFile/1442

USFWS. 2015. Windom Wetland Management District Habitat Management Plan. Accessed online: <https://ecos.fws.gov/ServCat/DownloadFile/138628?Reference=87534>

USFWS. 2024. Northern Long-Eared Bat (*Myotis septentrionalis*). Environmental Conservation Online System: Species Profile & Current Range Map. Accessed 7/30/2024 from: <https://ecos.fws.gov/ecp/species/9045>

Appendix A: Applicable Statutes and Executive Orders

Natural Resources

- Alaska National Interest Lands Conservation Act of 1980, as amended: The project will not take place within Alaska lands.
- Anadromous Fish Conservation Act of 1965: The project will not occur in waters protected by the AFCA.
- Bald and Golden Eagle Protection Act of 1940, as amended: No take of bald or golden eagles is expected as a result of the project.
- Clean Air Act of 1970: No significant impacts to air quality are anticipated as a result of the project.
- Clean Water Act of 1972, as amended: No significant impacts to waters of the US are anticipated as a result of the project. The project proponent has obtained a Section 404 permit from the US Army Corps of Engineers to implement this project.
- Coastal Barriers Resources Act of 1982: This action will not occur in waters protected by the CBRA.
- Coastal Zone Management Act (CZMA) of 1972, as amended: This action will not occur in waters protected by the CZMA.
- Emergency Wetlands Resources Act of 1986: The Act authorizes the purchase of wetlands by Land and Water Conservation Fund (LWCF). It requires the Secretary of the Interior to establish a National Wetlands Priority Conservation Plan, which requires the states to include wetlands in their Comprehensive Outdoor Recreation Plans. LWCF funds have played a limited role for wetland acquisition in the District. Most District lands been procured through funding from the Migratory Bird Hunting Stamp Act [16 U.S.C. 718(c)], grants from the state Outdoor Heritage Fund, and donations.
- Endangered Species Act of 1973, as amended: The Endangered Species Act (16 U.S.C. 1531–1544, December 28, 1973, as amended 1976-1982, 1984 and 1988) states in Sec. 8A.(a) that: “The Secretary of the Interior... is designated as the Management Authority and the Scientific Authority for purposes of the Convention and the respective functions of each such Authority shall be carried out through the United States Fish and Wildlife Service.” The act also requires all Federal departments and agencies to conserve threatened and endangered species and to utilize their authorities in furtherance of the purposes of this Act. Requirements under this Act have been met through Section 7 consultation.
- Farmland Protection Act of 1981, as amended: No farmland will be converted to nonagricultural uses as a result of this project.
- Federal Cave Protection Act (FCRPA) of 1988: The project footprint is not located in or near a cave on federal land.
- Federal Noxious Weed Act of 1990: The District will maintain best management practices during construction of this project – it is anticipated that the spread of noxious weeds would likely remain at current levels.
- Fish and Wildlife Act of 1956: It is not anticipated that there will be any substantial impacts to Refuge lands as a result of this project.

- Fish and Wildlife Coordination Act (FWCA) of 1958: No impacts to fish and wildlife which would require coordination under FWCA are anticipated as a result of this project.
- Fishery (Magnuson) Conservation and Management Act of 1976: The project footprint is not located near fisheries resources protected under FCMA.
- Lacey Act of 1900: No transportation or procession of fish, wildlife, or plants is expected as a result of this action.
- Marine Mammal Protection Act of 1972, as amended: No take of marine mammals is expected as a result of this action.
- Magnuson Stevens Fishery and Conservation Management Act of 1976, as amended: This action will not take place within waters protected by the MSFCMA.
- Migratory Bird Conservation Act of 1929: A list of all species of migratory birds protected by the Migratory Bird Treaty Act (16 U.S.C. 703– 711) and subject to the regulations on migratory birds is contained in subchapter B of title 50 CFR §10.13. The USFWS Division of Migratory Bird Management also maintains lists of priority bird species of concern at national, regional, and eco-regional (Bird Conservation Region) scales (www.fws.gov/migratorybirds).
- Migratory Bird Hunting and Conservation Stamp Act of 1934: No take of migratory birds is anticipated as a result of this project.
- Migratory Bird Treaty Act of 1918, as amended: The District lands within the project footprint will protect habitat for migratory birds; no significant impacts to migratory birds are anticipated as a result of the action.
- Wild and Scenic Rivers Act of 1968, as amended: This action will not be taking place within a resource designated as a Wild and Scenic River.
- Wilderness Act of 1964, as amended: This action will not be taking place within a designated wilderness area.
- EO 11988, Floodplain Management: The project lands will be managed and perpetually preserved by USFWS, and the planned project is not expected to cause significant impacts to the floodplain.
- EO 11990, Protection of Wetlands: While the project footprint contains wetlands, the planned alterations on them are not expected to cause significant impacts to wetlands. It is anticipated that wetlands will be created as a result of the project.
- EO 13186, Responsibilities of Federal Agencies to Protect Migratory Birds: No take of migratory birds is anticipated because of the project.
- Consultations for Essential Fish Habitat: No EFH habitat will be impacted as a result of this project.

Cultural and Historic Resources

- American Indian Religious Freedom Act (AIRFA) of 1978: The project lands are not located near any known Native American religious sites.
- Antiquities Act of 1906: The project has been reviewed by the Region 3 Historic Preservation Officer, and an ARPA permit has been requested for a phase 1 archeological survey.

- Archaeological and Historic Preservation Act of 1974: The project has been reviewed by the Region 3 Historic Preservation Officer, and an ARPA permit has been requested for a phase 1 archeological survey.
- Archaeological Resources Protection Act (ARPA) of 1979, as amended: The project has been reviewed by the Region 3 Historic Preservation Officer, and an ARPA permit has been requested for a phase 1 archeological survey.
- National Historic Preservation Act of 1966, as amended: The project footprint has been reviewed by the Region 3 Historic Preservation Officer, and it has been determined that there will be a phase 1 archeological investigation.
- Native American Graves Protection and Repatriation Act (NAGPRA) of 1990: This action will not involve the use of federal funds to repatriate or transfer Native American cultural items.
- Paleontological Resources Protection Act of 2009: The issuance of this easement and the associated project have been reviewed by the Region 3 Historic Preservation Officer, and it has been determined that there will be no impacts to paleontological resources.
- EO 11593, Protection and Enhancement of the Cultural Environment: The project footprint has been reviewed by the Region 3 Historic Preservation Officer, and it has been determined that there will be a phase 1 archeological investigation.
- EO 13007, Indian Sacred Sites: The project will not take place near any known Native American sacred sites.
- EO 13084, Consultation and Coordination with Indian Tribal Governments: The USFWS Midwest Region Native American Liaison has indicated that this project is unlikely to affect Federally Recognized Tribe lands, rights, or resources. As of December 2024, outreach with Tribal nations for the issuance of an ARPA permit has been conducted.
- EO 13175, Consultation and Coordination with Indian Tribal Governments: The USFWS Midwest Region Native American Liaison has indicated that this project is unlikely to affect Federally Recognized Tribe lands, rights, or resources. As of December 2024, outreach with Tribal nations for the issuance of an ARPA permit has been conducted.

Refuge Resources

- National Wildlife Refuge System Administration Act of 1966, as amended: No significant impacts to lands, fisheries, wildlife, habitat, or public use of the refuge are anticipated because of this project.
- National Wildlife Refuge System Improvement Act of 1997: Wildlife conservation will be maintained as a result of this project.
- Refuge Recreation Act of 1962, as amended: No changes to use of refuge lands are anticipated as a result of this project.
- EO 12996, Management and General Public Use of the National Wildlife Refuge System: No changes to use of refuge lands are anticipated as a result of this project.

- EO 12962, Recreational Fisheries: No recreational fisheries exist within the project footprint.

Other

- Americans with Disabilities Act (ADA) of 1990: No actions are planned within the project footprint that will impact existing refuge access for individuals protected by ADA.
- National Environmental Policy Act (NEPA) of 1969: No significant impacts are anticipated as a result of the issuance of this exchange of rights. An Environmental Assessment has been prepared.
- Noise Control Act of 1972: It is not anticipated that the described project would result in more than temporary noise disturbance.
- Resource Conservation and Recovery Act of 1976: This action will not involve the generation, transportation, treatment, storage or disposal of hazardous waste.
- Rivers and Harbors Act of 1899: There are no navigable waters within the project footprint.
- Safe Drinking Water Act of 1974: This action will not be taking place near public drinking water sources.
- Water Resources Planning Act of 1965 (sole-source aquifers): This action will not be taking place near an aquifer.
- EO 11644, Use of Off-Road Vehicles on Public Land: This project does not involve the use of off-road vehicles on public lands.
- EO 11987, Exotic Organisms: The FWS will continue implementing best management practices to minimize and control any possible introduction of exotic organisms into the natural ecosystem of lands managed within the project footprint.
- EO 12866, Regulatory Planning and Review: This exchange of rights does not require any review by the Office of Management and Budget.
- EO 13563, Improving Regulation and Regulatory Review: Regulatory review has been completed throughout the project planning process.

Appendix B: Figures

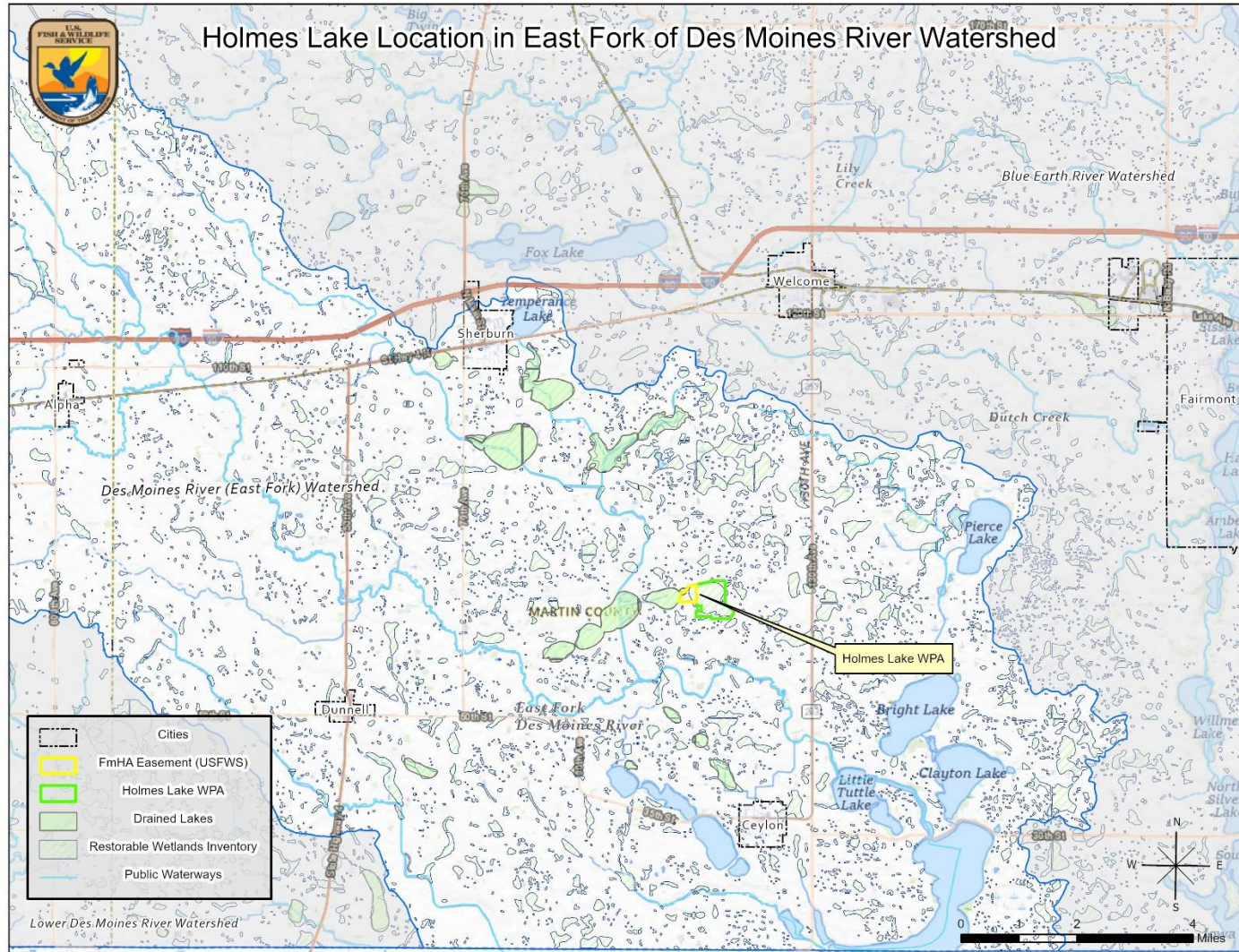


Figure 1. Overview map of Holmes Lake WPA location in the East Fork of the Des Moines River Watershed

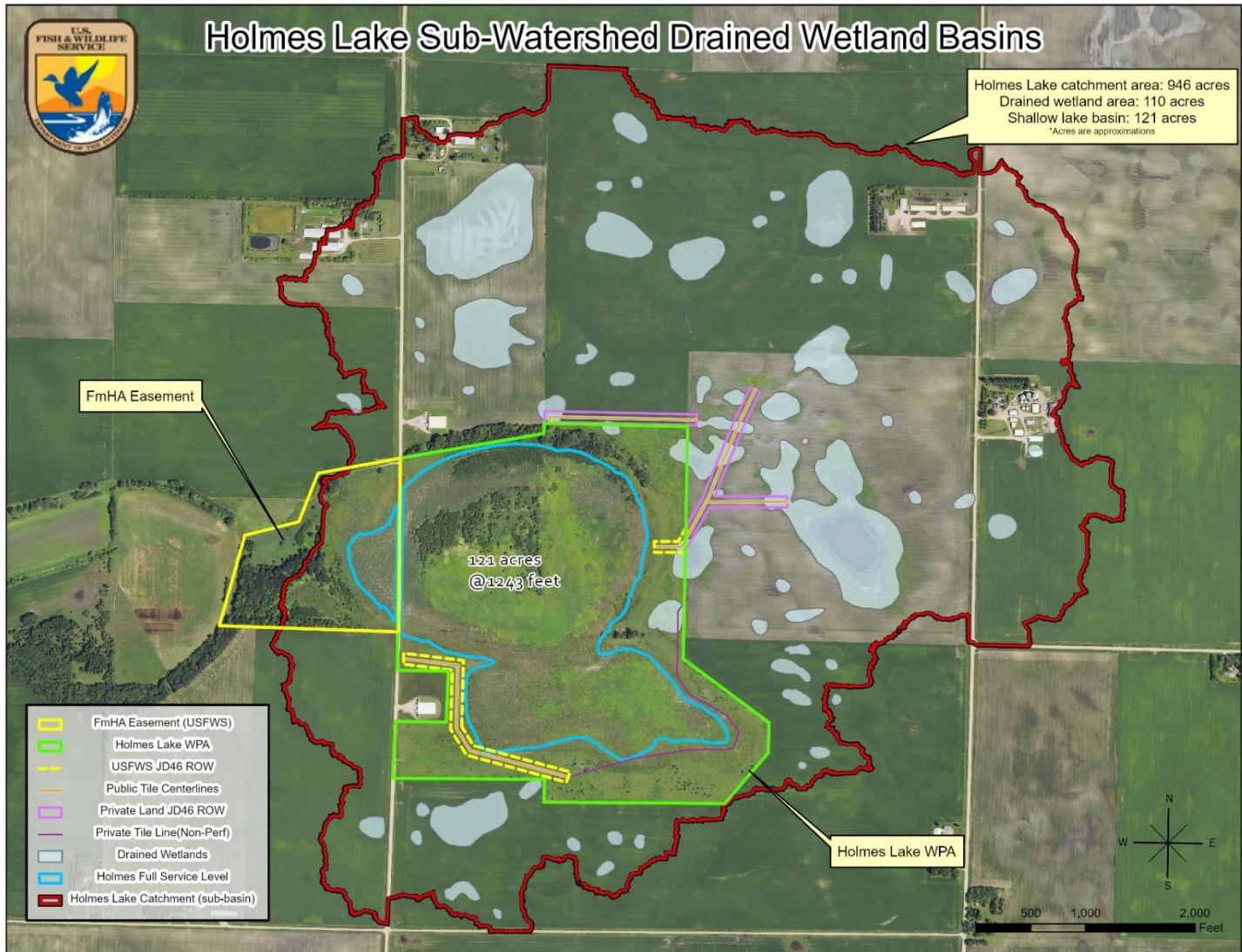


Figure 2. Close up of Holmes Lake WPA catchment area

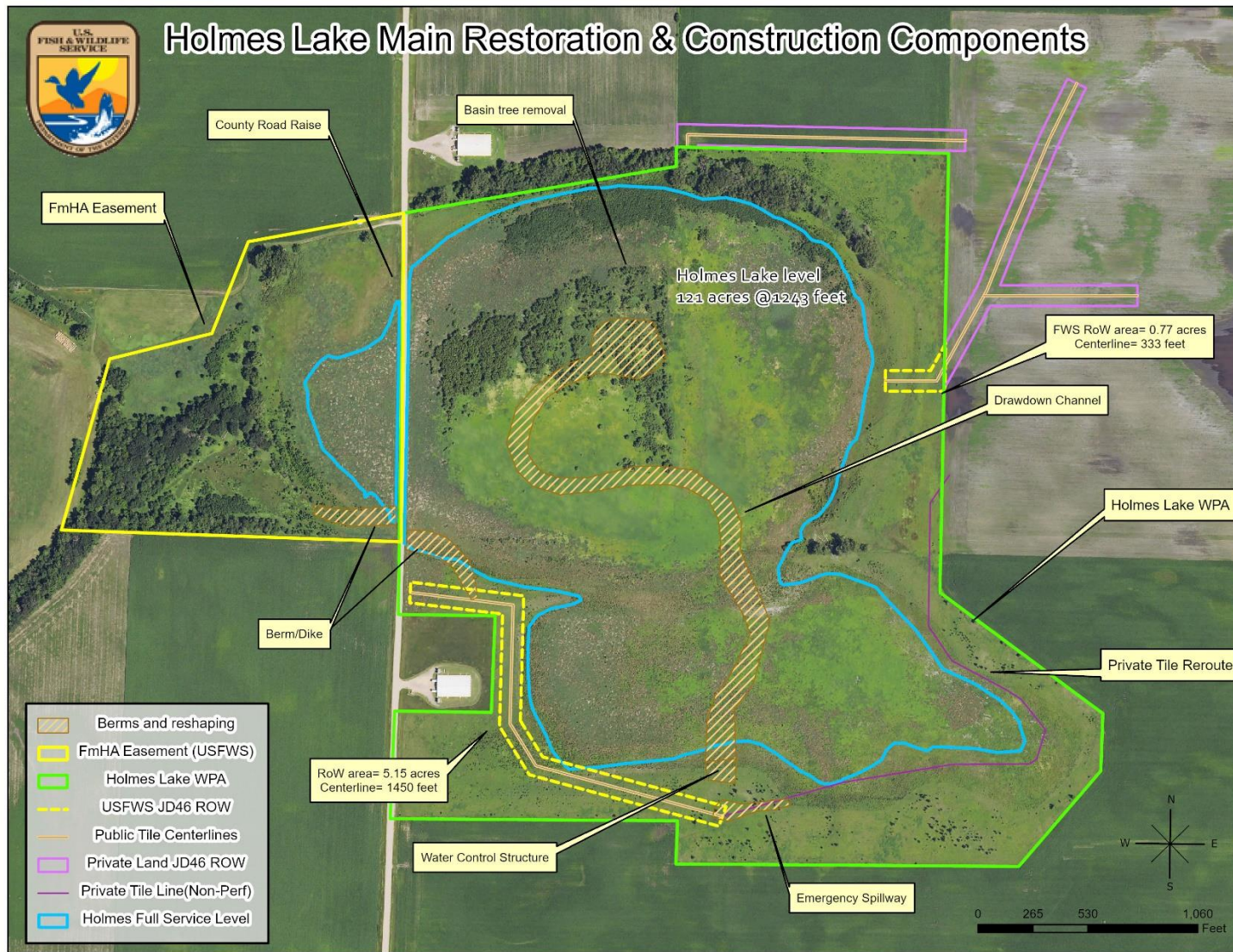


Figure 3. Map showing main project construction outside of modifying existing tile

Figures 5-8. New JD46 Right-of-Ways Surveys

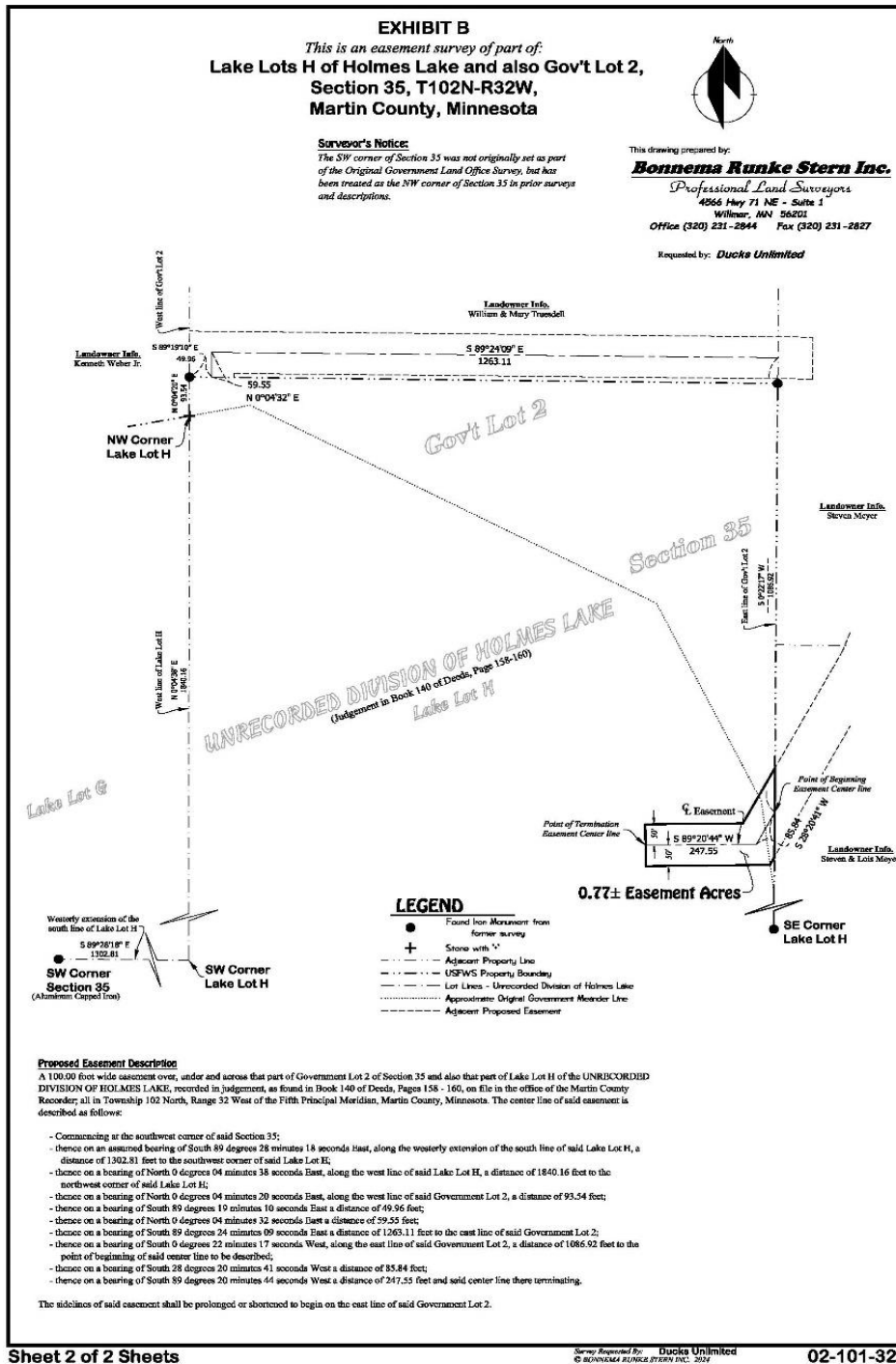


Figure 5. Description of Branch B Modification

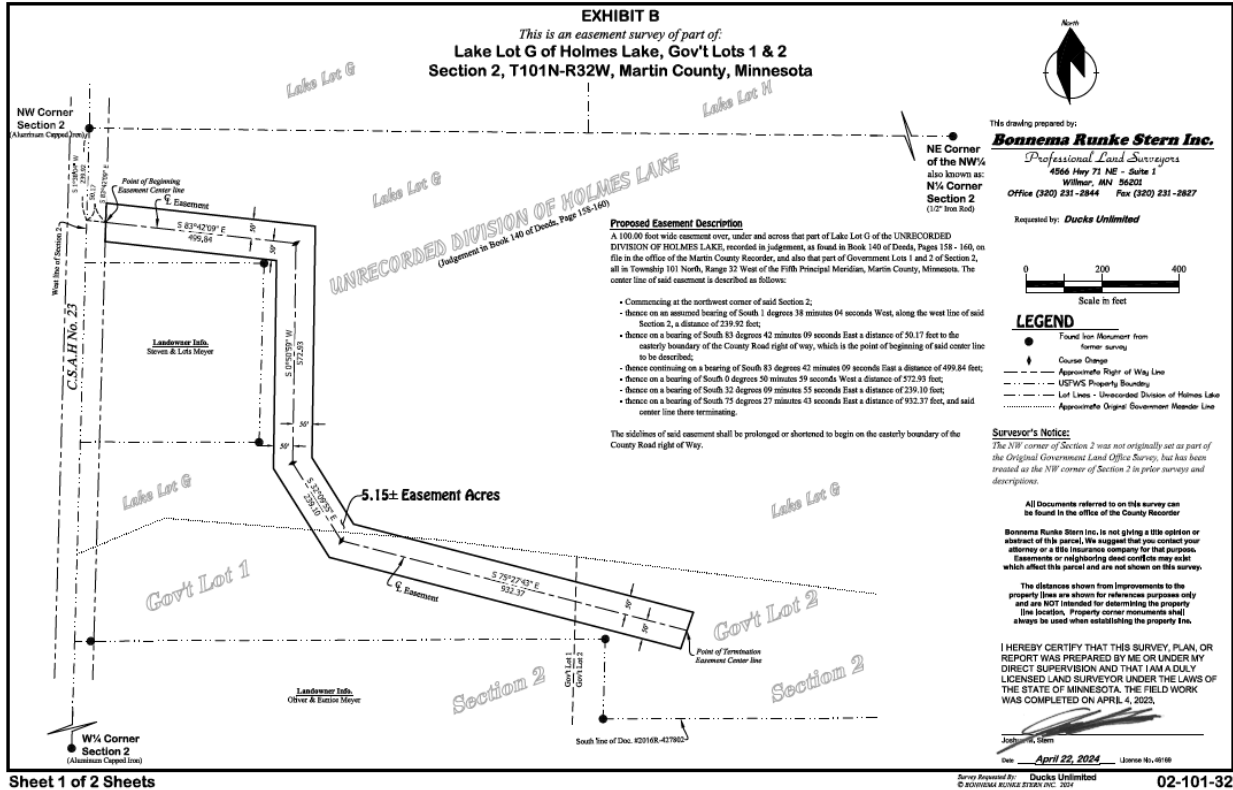


Figure 6. Description of Branch X Reroute

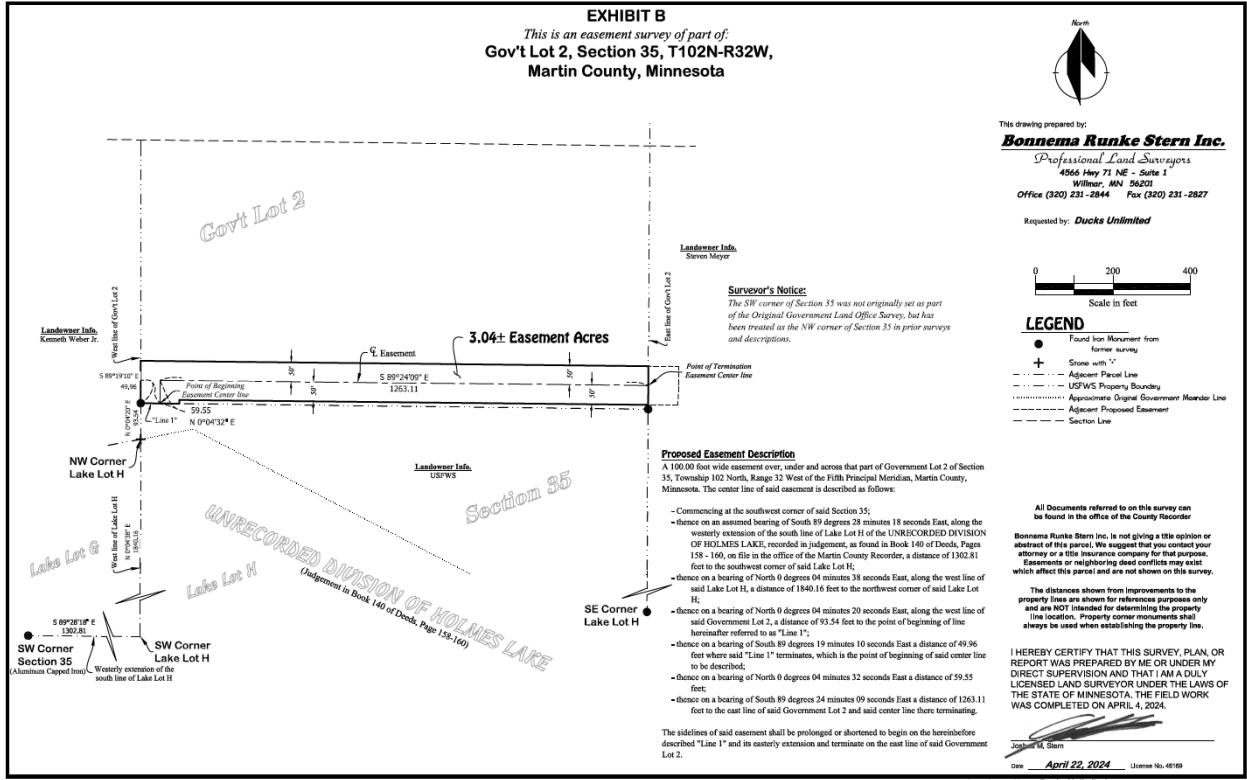


Figure 7. Description of Branch B1

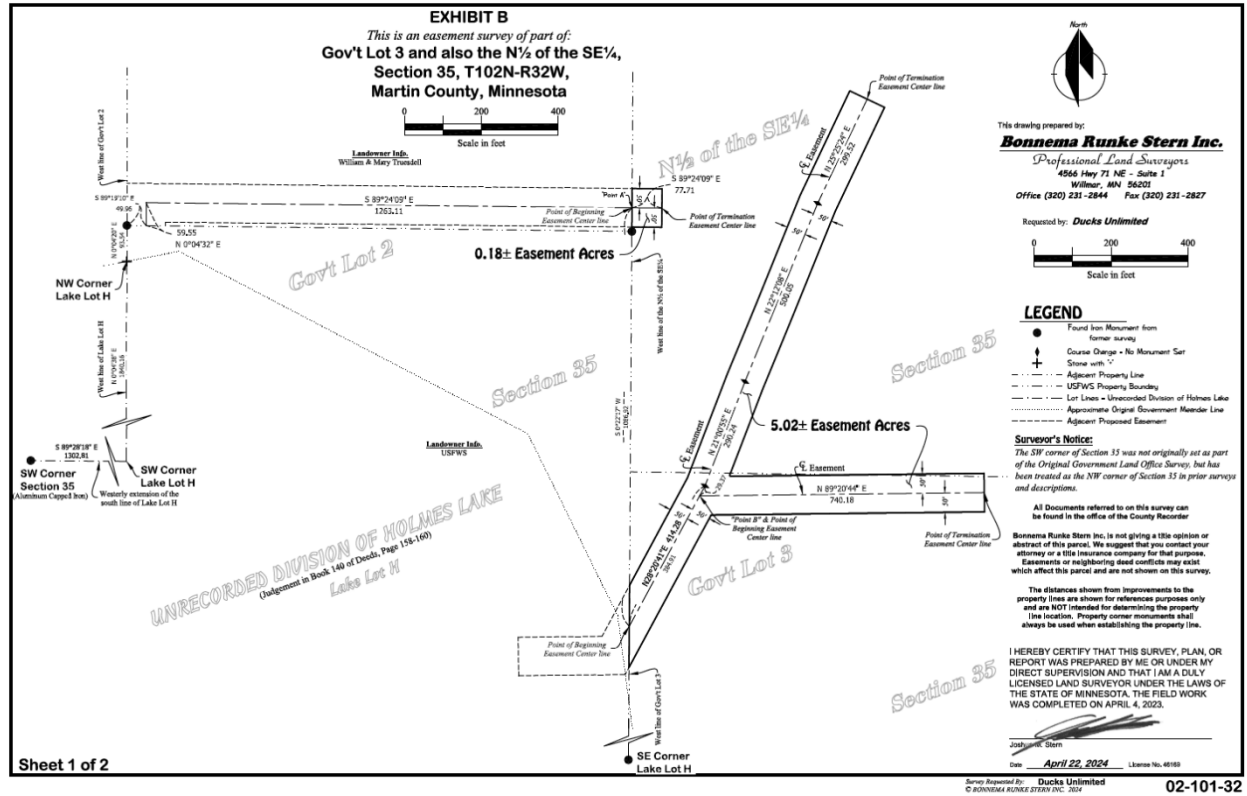


Figure 8. Description of Branch B Reroute

Appendix C: Summary of Comments

Hold for Final Environmental Assessment

Appendix D: Finding of No Significant Impact (FONSI)

Hold for Final Environmental Assessment