APPLICATION NUMBER 14-
Farmington Bay Waterfowl Management Area
Project Title: Farmington Bay Waterfowl Management Area J-Dike Proposal
(FBWMA's Fifth Priority Project)

UTAH DIVISION OF WATER QUALITY
195 North 1950 West
PO Box 144870
Salt Lake City, Utah 84114-4870

Red Butte Creek Project Proposal Form

NOTE: Proposal must be no longer than 6 pages. Supplemental documents such as letters of support, information to demonstrate previous project implementation and other relative supportive documents may be submitted in addition to this form.

Applicant Name: Rich Hansen

Co-Applicant Name(s) (if applicable):

Project Title: **Farmington Bay Waterfowl Management Area - J Dike Reconstruction**

Agency or Business Name (if applicable): Utah Division of Wildlife Resources

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☐ Individual ☐ Non-Profit ☒ Govt. Agency ☐ Academic ☐ Commercial ☐ Other

1. Estimated Project Costs:

Labor	$24,356
Materials	$ 9,740
Equipment	$34,095
Administration	$ 9,740
Miscellaneous	$19,485
TOTAL	**$97,416**

Other sources of project funding:

UDWR	$9,000 (Possible)	_____	$_____
Source	Amount	Source	Amount

Total project cost including other sources of funding: $106,416. (please include bids for labor, equipment, rentals, etc…). A project proposal requesting $9,000 for the water control structures will be submitted to the Utah Division of Wildlife Resources Habitat Council for funding consideration. The proposal deadline is December 31, 2011, with project review in March 2012 with funding available for use on July 1, 2012.

2. Describe the purpose and need of the project:

The purpose of this project is to reconstruct an existing dike at Farmington Bay Waterfowl Management Area (FBWMA). There is an existing foot print of the original "J-Dike" at FBWMA, just west of Goose Egg Island. This dike was damaged during a flood in the 1980's

and was never repaired. If the dike were repaired, the area would again be able to impound waters and would provide productive waterbird habitat.

With the annual expansion of Phragmites, a non-native aggressive reed, on the eastern shores of the Great Salt Lake, there is less habitat for waterfowl and shorebirds every year. Phragmites has taken over the existing footprint of the J-Dike and has out-competed other beneficial wetland vegetation. In other areas of FBWMA where there are impoundments and water control capabilities, Phragmites has been controlled. With the re-construction of this dike, the ability to control water levels will be regained and Phragmites will be controlled. Once the Phragmites is controlled, the habitat will once again benefit waterfowl and shorebirds and provide recreational opportunities to hunters and other recreationalists.

Farmington Bay Waterfowl Management Area is comprised of approximately 12,000 acres (with an indefinite west boundary into the Great Salt Lake) and is located at the base of the Jordan River delta along the southeast bay of the Great Salt Lake in Davis and Salt Lake Counties. For management purposes, it is divided into four units; Unit 1, Unit 2, Turpin Unit, and the Crystal Unit. Private lands surround the majority of the WMA, with the Great Salt Lake bordering on the west. The development of FBWMA began on July 1, 1935, with a plan to convert the alkaline lake bed into productive waterfowl habitat. The first impoundments, Units 1 and 2, were completed in 1940 by the Civilian Conservation Corps.

The two Chevron Oil Spill events in 2010 discharged oil into Red Butte Creek, the Jordan River and Liberty Park Pond, and impacted both wild and domestic waterfowl. Some birds had direct mortality, some had to be euthanized due to their injuries, while others became coated with oil and were hand-washed. It is UDWR's understanding that 391 birds were recovered and 65 waterfowl died as a result of the spill. The majority of these birds were wild Canada geese and mallards. In addition, waterfowl nesting and feeding habitats in these waterways were also negatively affected by the oil spill. This project will greatly enhance waterfowl habitats on FBWMA and will provide some measure of compensatory mitigation for both the Chevron Oil Spill impacts.

3. Estimated time frame of the project with significant milestones (Note: Project must be completed with final reports filed by November 10, 2014):

UDWR would acquire the necessary permits from the U.S. Army Corps of Engineers by January 1, 2013. The project would be designed and engineered by June of 2013, with construction starting in July of 2013. The project should be completed by September 15, 2013.

4. Describe the location of the project with attached location map, including details on the total area that will be directly enhanced by the project:

The project will be located at FBWMA, specifically northwest of Unit 1 (see map). There is an existing footprint of the J-dike that would be the base of the new dike. The legal description of the location is Township 2N Range 1W section 24.

The total acres that will be directly enhanced will be 400 acres, including the 300 acres inside of the dike and 100 acres that will be flooded outside of the dike within the Great Salt Lake.

5. Describe how the project will specifically enhance and protect waterways affected by the Red Butte releases and improve the conditions of one or more of the following: wildlife, habitat, natural vegetation, water quality or emergency response:

Beneficial uses of the Jordan River, which include warm water fish, water birds, and aquatic organisms in their food chains, are protected by a variety of water quality standards, but every segment of the Jordan River has been found to be impaired for one or more beneficial uses due to exceeding one or more water quality standards. Segments of the lower Jordan River are currently impaired due to low levels of dissolved oxygen, organic enrichment, total dissolved solids, high water temperatures, and *E. coli*. The Jordan River receives pollutants from many sources, including Utah Lake, wastewater treatment facilities, tributaries, stormwater, and diffuse runoff. While the quality of Jordan River water is not ideal for supporting the uses by fish and wildlife, it nevertheless serves as the life-blood of a series of ponds and wetlands at the lower end of the Jordan River and Farmington Bay. Management of the Jordan River is crucial to protecting the existing beneficial uses and potentially improving the condition of this waterway and wetland habitat that is supported by it.

Red Butte Creek flows into the Jordan River, which is the main water source for FBWMA. Jordan River water is diverted at the Burnham Dam and enters FBWMA through the State canal where it is then diverted as needed throughout the management area. This project would be beneficial for waterfowl and other migratory bird species. Currently, waterfowl are not using this area because it is dominated by dense, monotypic stands of emergent vegetation, especially Phragmites. This project will turn nearly 300 acres of low quality habitat into a productive wetland that will attract waterfowl and other migratory birds. Large monotypic stands of undesirable vegetation will be sprayed, burned and then flooded with water. The dike will provide the ability to impound water, while the water control structures will allow the water in the impoundment to be manipulated. Native submerged aquatic vegetation (sago-pondweed) would naturally grow in the impoundment and would attract and feed waterfowl. Furthermore, the new impoundment will serve as an area where sediments can settle out of the system before discharging into the Great Salt Lake.

6. Describe project's connectivity to other natural areas or projects that further enhance wildlife, habitat, natural vegetation, water quality or emergency response:

FBWMA is located immediately adjacent to the GSL and its freshwater ponds and marshes annually support thousands of water birds. The GSL is of hemispheric importance to migratory water birds (waterfowl, shorebirds and wading birds), and many species use the GSL as nesting, feeding and staging areas. At times, millions of birds may be found on the GSL and the surrounding wetland/upland habitat complexes. Since the GSL is a dynamic system with the lake elevation changing seasonally and annually, the abundance and location of salt, brackish and freshwater habitats continually change over time. These changes create a continual diversity

and continuity of available habitats, such that wildlife, especially waterfowl and shorebirds, will move around the GSL to find those habitats that supply their needs. It is because of these habitats that the GSL has become so critically important to wildlife, with the Lake sometimes supporting over 50% of the worldwide populations of some avian species.

The new impoundment will enhance other man-made impoundments, migratory bird habitat, and water quality at FBWMA. For instance, the project will enhance the quality of water that is discharged into the Great Salt Lake (GSL). Specifically, water draining from one of the large impoundments at FBWMA (Unit 1) will discharge water to the new impoundment to the west. Therefore, water will filter through the new smaller impoundment before discharging into the GSL. During the waterfowl hunt, Unit 1 can hold as many as 80,000 ducks in the waterfowl rest area. No trespassing or disturbances are permitted in the rest area, so the ducks are heavily concentrated in the Unit. However, the high numbers of ducks quickly eat the area out of sago-pond weed. This project would provide waterfowl additional habitat directly west of the rest area.

7. Describe any additional social benefits of implementing this project:

This project will enhance waterfowl hunting, bird-watching, photography and school group education tours at FBWMA. Since the 300 acres being considered in this project are currently dominated by thick monotypic stands of Phragmites and bird use is minimal, waterfowl hunters are missing hunting opportunities they could be having on public land. Also, this project will enhance watchable wildlife opportunities by attracting more waterfowl and shorebird species for the public to view.

The J-dike is in close proximity to the Great Salt Lake Nature Center at FBWMA. The visitors at the nature center facility and area trails will have the opportunity to see and experience more wildlife than they currently do with the J-dike not functioning correctly.

8. Project plans and details, including rights to work on specified piece of land:

The FBWMA is owned and managed by the Utah Division of Wildlife Resources (UDWR). UDWR will design and draw up the plans for dike construction including the location of the water control structures. UDWR will obtain any necessary permits from the U.S. Army Corps of Engineers. Since the original footprint of the dike is still in place, there should be minimal wetland fill needed for this project. In addition, UDWR will purchase three water control structures with pipe at $3,000 per structure (Total of $9,000). An RFP will be released requesting bids for this project.

The contractor will be required to supply all labor, material, and equipment required to complete the construction of dikes. Borrow areas for dike construction will be located in a wetland area adjacent to the dike construction. The crown of the dike shall be drivable by maintenance vehicles. The crest, side slope, and berms of the new dike shall be trimmed to conform to the design plans. Shaping of the dike shall yield a smooth surface and obtain finish lines and grades to match the existing foot print. The crown of the dike shall be drivable by maintenance vehicles. The crest, side slope, and berms of the new dike shall be trimmed to conform to the grades of the existing footprint. To build the dike, it will take 21,648 cubic yards

of material. Figuring in 50% shrinkage, the dike will need another 10,824 cubic yards of material. The price for building the dike will be $97,416, for moving 32,472 cubic yards of material. The three water control structures will be installed on the west side of the impoundment. The water control structures will be cement with wing-walls, will be five feet high, will accommodate a 40" wide stop-log, and be affixed with a 24" diameter poly-urethane pipe. A project proposal requesting $9,000 for the water control structures will be submitted to the Utah Division of Wildlife Resources Habitat Council for funding consideration. The proposal deadline is December 31, 2011, with project review in March 2012 with funding available for use on July 1, 2012.

9. Describe your experience in implementing projects of similar scope and magnitude:

I have worked for the Utah Division of Wildlife Resources for over nine years. I was the assistant at Ogden Bay WMA for one year, the assistant at FBWMA for two years and I have been the manager of FBWMA for the last six and a half years. During that time, we have constructed a new unit (The Doug Miller Unit), cleaned approximately 8 miles of channels, breached and repaired a dike due to flooding, replaced ten failed water control structures and repaired miles of damaged dikes. In addition to this maintenance, we have sprayed thousands of acres of noxious weeds and improved the habitat quality for waterfowl, shorebirds, and wading birds. We have also managed 60 acres of wetlands and uplands for the Utah Transit Authority that was mitigation for Frontrunner transit project. We have met all of the U.S. Army Corps of Engineers mitigation requirements for this project. We have also created a 4 acre pond with islands as mitigation for the FBWMA Nature center road and parking lot.

10. Describe how ongoing maintenance of the project will be funded and carried out:

Ongoing maintenance should be minimal and should be able to be absorbed into our standard operating budget. However, special projects or maintenance on the project in the future will be submitted as a habitat project proposal to the Utah Division of Wildlife Resource's Habitat Council for funding consideration.

11. List consultants or agency partners that have participated in project development:

Ducks Unlimited supports the project and is willing to help out with engineering and Technical Assistance. Although these mitigation funds cannot be used to leverage additional federal funds, Ducks Unlimited can use these monies as non-match and show support towards a NAWCA (North American Waterfowl Conservation Act) grant that would benefit additional wetlands of the Great Salt Lake ecosystem. Please see the attached letter of support.

The following organizations also support this project. Please see the attached letters of support:

- USFWS
- Utah Airboat Association
- Delta Waterfowl
- Utah Mud Motor Association
- Utah Waterfowl Association

Signature Richard O Hanson Date 12/13/11
Applicant

SAME LETTERS OF SUPPORT AS APPLICATION NUMBER 10