73-710 Fred Waring Drive, Suite 200
Palm Desert, CA 92260
(760) 346-1127

REQUEST FOR PROPOSALS

DEVELOPMENT OF DRAFT RESTORATION PLAN FOR ENHANCEMENT OF WETLANDS HABITAT IN THE COACHELLA VALLEY STORMWATER CHANNEL AND DELTA CONSERVATION AREA, RIVERSIDE COUNTY, CALIFORNIA

Interested bidders should submit proposals to:

COACHELLA VALLEY CONSERVATION COMMISSION
ATTN: KATHLEEN BRUNDIGE
kbrundige@cvag.org

Proposals must be received by the CVCC by 5 pm (local time)
Friday, December 4, 2020
Late proposals will not be accepted.

Technical questions regarding this Request for Proposals should be directed to Kathleen Brundige, 760-346-1127, kbrundige@cvag.org.

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I. INVITATION

The Coachella Valley Conservation Commission (CVCC) is seeking proposals for development of a draft wetlands restoration plan to enhance habitat for endangered rails and other wildlife species at the North Shore Ranch property near Mecca, California. Interested consulting firms skillful in evaluation of feasible restoration options and design of habitat restoration are encouraged to apply. The project involves meeting habitat conservation and restoration goals of the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP). CVCC reserves the right to contract for the work with a single primary consultant, which may perform the work in-house or through one or more subcontractors, or to contract with multiple consultants. **The contract term is expected to be from approximately January 14, 2021 to June 30, 2022.**

A pre-proposal site visit will be held on November 17, 2020 at 9 a.m. at the North Shore Ranch site. In order to participate in this site visit, proposers should contact Kathleen Brundige (kbrundige@cvag.org) to confirm your intent to participate. Proposers will be provided with information about where to meet for the site visit and COVID-19 safety protocols.

Please submit your proposal by email no later than **5 pm on Friday, December 4, 2020**. Proposals should be submitted to the attention of Kathleen Brundige, kbrundige@cvag.org. You will receive a return email confirming receipt so please allow adequate time for your submittal to be received and confirmed.

All documents necessary to respond to this request for proposals are listed in the Table of Contents and posted on the CVMSHCP website. Additional information on the CVMSHCP, including all Plan documents, can also be found at the CVMSHCP website, www.cvmshcp.org.

II. BACKGROUND

Wetlands are extremely important covered natural communities in the Coachella Valley Multiple Species Habitat Conservation Plan. The CVMSHCP is a regional landscape-scale plan which provides for conservation of biological diversity and ecosystem processes to meet the requirements of federal and state endangered species laws, while allowing for balanced growth and development. The CVMSHCP provides for conservation, monitoring and management of 27 species and 27 natural communities in an area of approximately 1.1 million acres in eastern Riverside County. The CVMSHCP is authorized by permits from the state and federal wildlife agencies ("Wildlife Agencies"), the California Department of Fish and Wildlife (CDFW) and U.S. Fish and Wildlife Service (USFWS).

The Coachella Valley Conservation Commission (CVCC) is a joint powers authority responsible for implementing the CVMSHCP on behalf of the Local Permittees. The Local Permittees consist of the cities of Cathedral City, Coachella, Desert Hot Springs, Indian Wells, Indio, La Quinta, Palm Desert, Palm Springs, Rancho Mirage, the County of Riverside, Riverside County Flood Control and Water Conservation District, Riverside County Waste Resources Management District, Riverside County Regional Parks and Open Space District, Coachella Valley Water District, Mission Springs Water District, and Imperial Irrigation District. State permittees include Caltrans, the Coachella Valley Mountains Conservancy, and California Department of Parks and Recreation. The Coachella Valley Association of Governments (CVAG) provides administrative support and staffing for the CVCC.

The project is within the Coachella Valley Stormwater Channel and Delta Conservation Area of the CVMSHCP. The Coachella Valley Stormwater Channel and Delta Conservation Area includes

land from Avenue 66 near Mecca to the Salton Sea, except for the Tribal land that is not a part of the CVMSHCP. This Conservation Area contains suitable migration and breeding habitat for the riparian and wetland bird species covered by the CVMSHCP, as well as desert pupfish habitat. CVCC has acquired several large parcels, including the North Shore Ranch property, over the last few years as part of our efforts to meet the acquisition objectives and requirements for this Conservation Area. Acquisition of these parcels has significantly connected existing conservation ownership in the Delta Area. The Coachella Valley Water District also owns land in the general area and is planning a habitat enhancement project for cottonwood/willow and mesquite habitat, to the south of the project site.

As the Salton Sea has continued to retreat, many of the native wetland bird species have become reliant on artificial ponds such as those located on the North Shore Ranch property. This former duck club provides an ephemeral wetland ecosystem and nesting habitat. In July 2019 CVCC completed the acquisition of approximately 143 acres of the North Shore Ranch property for habitat conservation, including restoration of natural communities. Conservation objectives for the CVMSHCP call for monitoring and management of mesquite, cottonwood and willow habitat. In sections 9.7.1.1 and 9.7.1.2, the CVMSHCP also identifies habitat restoration and enhancement of habitat for the Yuma Ridgway's rail (*Rallus obsoletus yumanensis)* (formerly known as the Yuma clapper rail). For the California black rail (*Laterallus jamaicensis coturniculus*), a primary conservation objective listed in Section 9.7.2.1 is to maintain, restore, and enhance habitat in the Coachella Valley Stormwater Channel and Delta Conservation Area. The restoration and enhancement of the North Shore Ranch Property to benefit covered species is a next step in the conservation of this area.

III. DESCRIPTION OF PROJECT

The project is to prepare a draft restoration plan for a pilot restoration project on the North Shore Ranch property. The project will involve development of a preliminary wetlands restoration and enhancement plan to create habitat for endangered rails and other CVMSHCP covered species. The focus of the draft restoration plan will be to determine if it is feasible to transition some of the existing North Shore Ranch ponds from habitat designed for waterfowl to habitat which will support rails, mesquite and riparian communities. The draft restoration plan will be used to initiate a pilot study on a minimum of one of the ponds at North Shore Ranch.

The project area is located near the Salton Sea, south of Mecca and Highway 111, between Avenue 68 to the north and Avenue 70 to the south, just west of Johnson Street. The property is located in the unincorporated area of Riverside County. Figure 1 shows the project area which is composed of two parcels owned by CVCC at North Shore Ranch. North Shore Ranch is located in the southeast ¼ of Section 20, Township 7S, Range 9E. CVCC has acquired the two parcels, the southern parcel (APN 729-040-013) which is 76.89 acres and the northern parcel (APN 729-040-013) which is 66.22 acres, a total of 143.11 acres. CVCC also owns the 142 acres directly south of the North Shore Ranch property; this property is not part of the project area.

Figure 2 shows the current configuration of the pond system at North Shore Ranch and the location of wells and discharge pipes. The previous owner of North Shore Ranch maintained the ponds as a private duck hunting reserve and encouraged game birds to nest and frequent the area. He also regularly managed and removed the tamarisk, which proliferates in the mud of the pools as they dry out over the summer.

Figure 1: Project location at North Shore Ranch

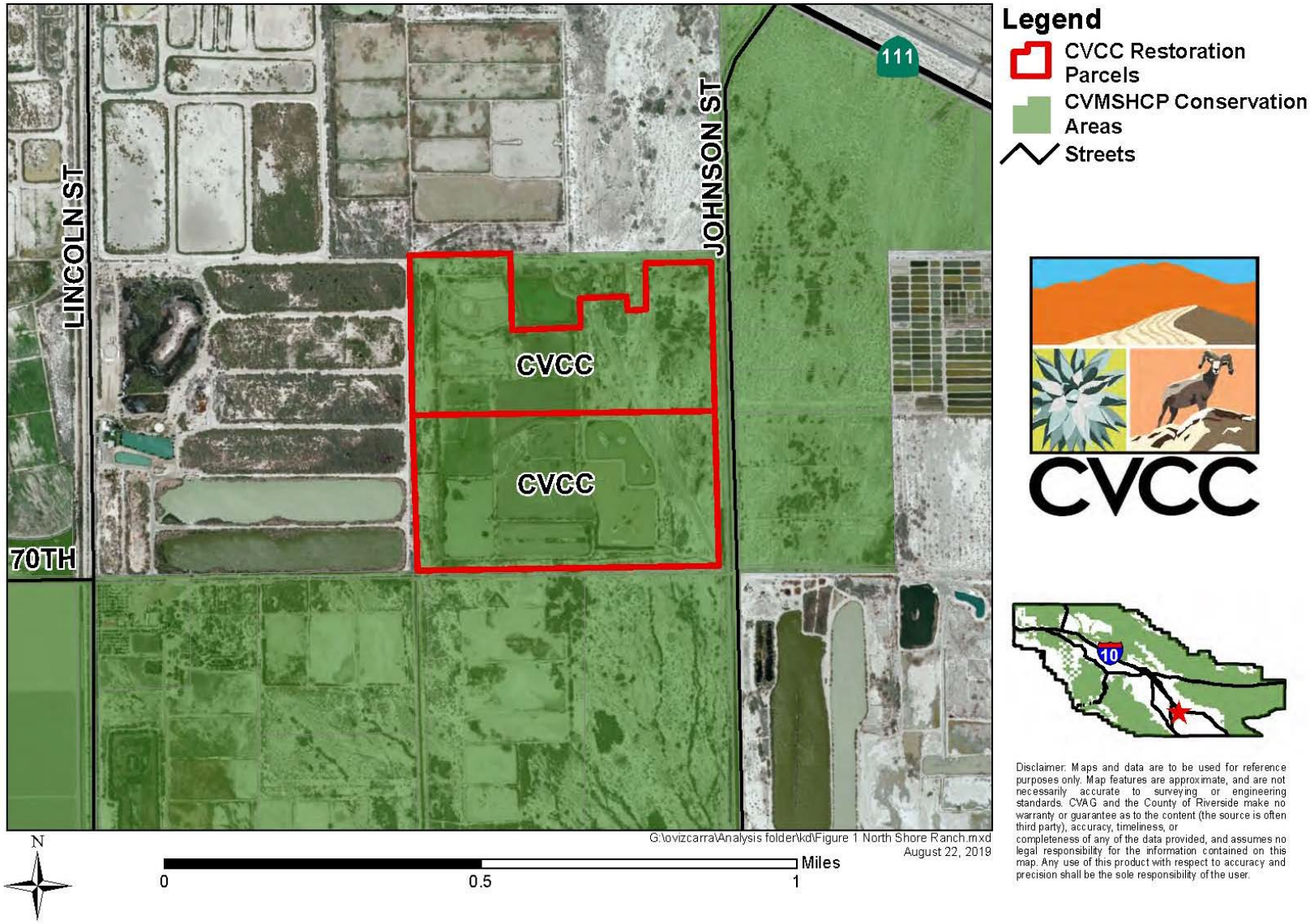
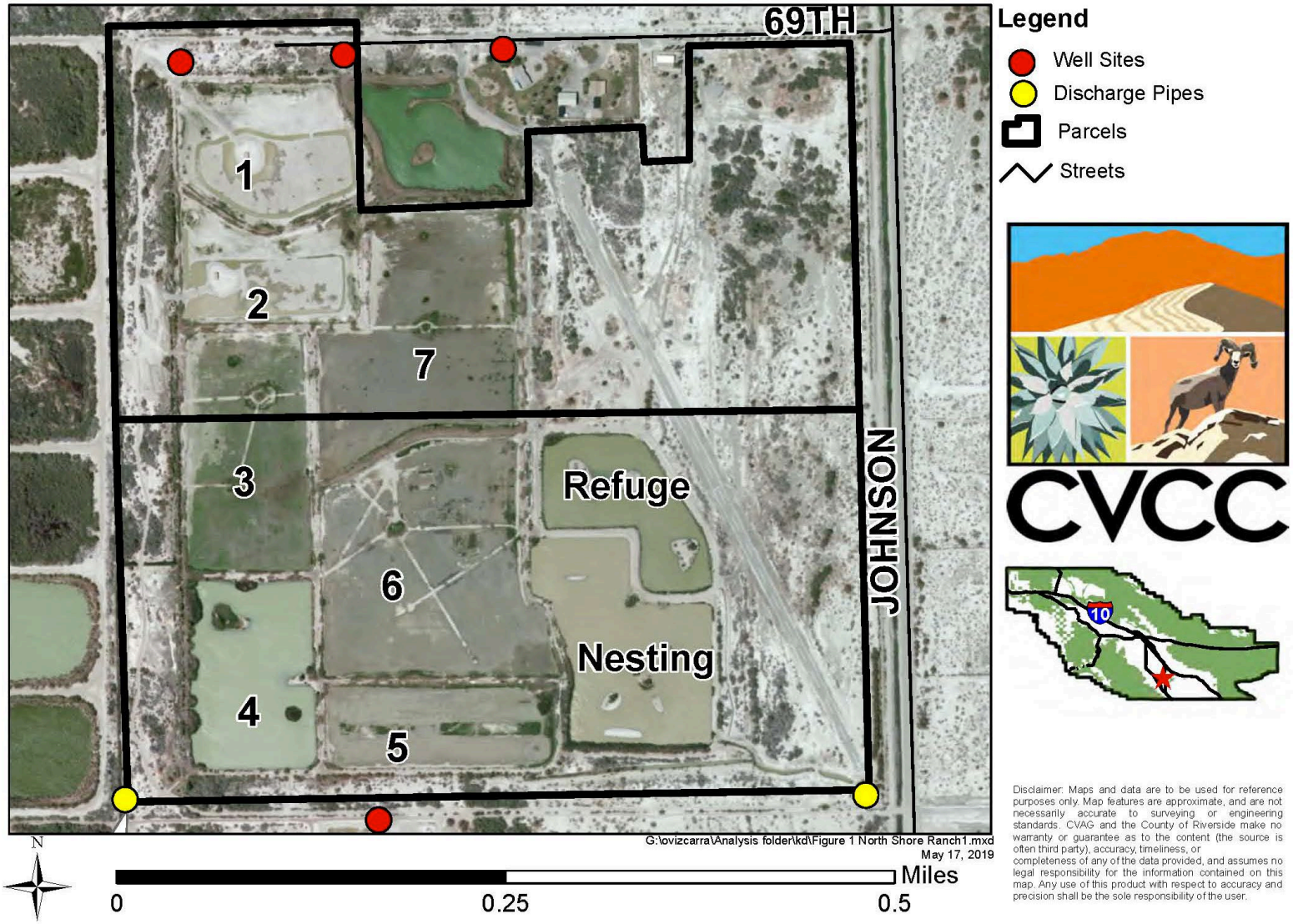


Figure 2: Current Configuration of Ponds and Wells at North Shore Ranch



Tamarisk, or salt cedar, (*Tamarix ramosissima)* is prevalent on the property. As a highly invasive plant, salt cedar displaces native riparian trees such as mesquite, cottonwood, and willows. Tamarisk stands can effectively prevent the re-establishment of native species due to shading, elevated salinity, and other possible factors such as changes to soil biota. Large dense stands of salt cedar can also consume up to 200 gallons a day of water, to the detriment of native species, potentially causing ground water levels to drop and less surface water to be available for them. Salt cedar in the area also recently helped to carry a 560-acre fire through part of the CVCC properties including a portion of North Shore Ranch. In December 2019/January 2020, tamarisk removal was completed by CVCC along the western and southern levees with a crew from Urban Conservation Corps and a licensed herbicide applicator. There are still several acres of tamarisk to be removed, along with many sprouts in wet soils on the edge of the ponds that are hand-pulled on an ongoing basis.

The previous property owner managed the water supply in the existing network of ponds to provide water for waterfowl during the winter months. During the late spring and summer months, the ponds were allowed to dry and various crops were planted to provide food resources for waterfowl. This water regime is not consistent with what is required for rails which need to have stable water levels during the nesting season. They also prefer to have water available into the summer months. The Ridgway's rail prefers deeper water with cattails and other marsh vegetation that they can move through for foraging and nesting. The black rail prefers shallower water along the margins of the marsh where soils are saturated and they can forage for insects.

A report prepared for CVCC in August 2019, *Rail Habitat for CVCC at North Shore Ranch* (Attachment B), contains preliminary documentation of existing conditions in the project area, including extent of invasive species, existing water management, and conditions of the ponds. It also describes habitat features for both rail species. This report recommends using Pond 5 as a pilot, first demonstration project of the potential for habitat development for both rail species. The proposal should use the information and recommendations in this report as a basis for a draft restoration plan that will test the feasibility of habitat enhancement to support rails and other native species.

The proposal should describe how an evaluation of the amount and depth of water needed in the ponds to enhance the habitat for these rail species will be completed. The density of vegetation will also need to be determined. Information for development of the restoration plan will draw on data from similar efforts at the south end of the Salton Sea, along with BLM's wetlands restoration and mesquite planting program at Dos Palmas.

C. SCOPE OF WORK

The Scope of Work presented here is provided as a starting point for the restoration plan. The project is funded through a Proposition 1 grant by the Coachella Valley Mountains Conservancy. CVCC seeks a proposal that includes a thoughtful level of analysis that is focused, adaptive to new information, and minimizes costs. The proposal should describe the steps the proposer will follow to develop a draft restoration plan to meet the objectives described in tasks 1-6. To that end, suggested refinements to the approach presented here should be included in the proposal. The restoration plan objectives may be refined as appropriate following selection of the project consultant, in consultation with CVCC staff.

Task 1: Evaluate the current water supply and water availability at North Shore Ranch, including available wells, irrigation lines along the berms and delivery schedules. Based on current CVCC costs for water, develop conceptual costs for pumping needed to support habitat enhancement.

Task 2: Prepare a 65% draft restoration plan to support a pilot habitat enhancement project for Pond 5 (4.9 acres). The plan should identify options for limited grading of this pond to enhance habitats, manage and maintain appropriate water depths, water duration (residency time), and stability of depths. Include maintenance, monitoring, and adaptive management sections. Attach conceptual costs to all activities as well as an overall conceptual estimate. The restoration plan should address the following objectives:

a. Control invasive species including salt cedar and any other non-native vegetation that will need to be removed for restoration.
b. Provide beneficial habitat for rail species with areas of shallow depths (< 2 in.) and deeper depths (~12 in.) in Pond 5. Describe recontouring to allow habitat variability - shallower water in parts, gentle slopes between shallow water, and transitional upland areas so that the California black rail can forage in adjacent habitat.
c. Determine the type(s) of habitat that are desired in Pond 5 to attract rails. Develop a planting plan to create such habitat and take advantage of the irrigation infrastructure. Once non-natives are removed, the plan should identify plant species and strategies for revegetation to include colonization by volunteers and reintroduction with seeds, transplants, or container plants. Document and include recommendations for irrigation system on the berms to support planting of native mesquite trees.
d. Stabilize berms with native vegetation. The preliminary site assessment (Attachment B) recommended saltgrass (*Distichlis spicata*) to stabilize berms. Analysis should also consider planting mesquite along the southern berm where tamarisk rows were previously established. Other planting and vegetation management recommendations, if applicable, should be included in the restoration plan.
e. Identify needed repairs and modifications to pond berms and water infrastructure. Pond 5 currently requires repairs to the berm and drop structures before new water can be introduced. Drop structures should be analyzed for their capacity to control water in small increments (1-2 inches) of depth. Recommendations for restoration of berms should identify standards so that berms are wide enough and adequately compacted on the surface to accommodate vehicles.
f. Identify new water delivery and discharge structures required for restoration. Additional turnouts in the existing water delivery system may be necessary to assure that each pond can be supplied from at least two locations. Plans should show discharge structures that allow for cascading from at least two locations in each pond. Discharge to the drains should be maintained as well so that water quality can be managed.
g. Develop vegetation management strategy that allows most of the habitat to remain functional while some of it is burned or otherwise managed in rotation. Burning is a standard tool for management of both stem density and thatch; the plan should address potential management concerns such as air quality and necessary permits. Other vegetation management recommendations, if applicable, should be included in the restoration plan.
h. Compile any data and modeling results into a geospatial database for use during monitoring activities.

Task 3: Draft a year-round site management plan that will maximize the potential for rails to use the habitat including information about the required water depth and delivery timing, and seasonal

vegetation management strategies that will not adversely affect rail residents and breeding pairs.

Task 4: Circulate draft restoration plan among CVCC's Biological Working Group/Reserve Management Committees (BWG/RMUC) for review and input.

Task 5: Describe necessary permits needed and develop all conceptual costs for implementation of the restoration plan.

Task 6: Prepare Draft Final Restoration Plan incorporating input from CVCC, BWG/RMUC and Wildlife Agencies.

Task 7: Contract duration will extend through June 2022 so the contractor can be available for consultation as CVCC begins to implement pilot project and finalize plans for ongoing restoration at North Shore Ranch.

IV. TENTATIVE PROJECT SCHEDULE

Distribution of RFP	November 10, 2020
Site Visit	November 17, 2020
Latest Date to Submit Questions on RFP	November 25, 2020
Response to Questions Posted on CVMSHCP website	November 30, 2020
Closing Date for RFP	December 4, 2020
Interviews if needed	December 7-11, 2020
Tentative Notification of Selection (pending CVCC approval)	By December 11, 2020
Award of Contract and Notice to Proceed	January 14, 2021
Draft Restoration and Habitat Plan due for Comments	April 30, 2021
Final Draft Restoration and Habitat Plan	May 31, 2021
Available for Consultation as Needed	June 2021 – June 2022

V. PROPOSAL REQUIREMENTS

You are encouraged to keep your proposal brief and relevant to the specific work required.

The RFP document, as well as any addenda, may be downloaded from the CVMSHCP website at www.cvmshcp.org.

Proposals should include, as appropriate, the following:

A. Cover Letter including:
   1. The name, address and phone number of the contact person for the remainder of the selection process.
   2. Specific examples of relevant experience with similar projects in California. Any qualifying statements or comments regarding the credentials and relevant experience of consultant.
   3. Descriptions of the roles, credentials and relevant experience of the team members, and identification of sub-consultants if applicable.

B. Description of Work to be Performed:
   The proposal should describe a work plan and provide an outline of tasks and estimated schedule for completion of tasks outlined in the scope of work.

C. Firm, Project Manager and Key Staff Qualifications:
   Qualifications of the firm, project manager and key staff assigned to the project, their experience with similar projects, and experience with regulatory and environmental compliance issues related to restoration projects. Recently performed relevant projects that clearly and accurately demonstrate the past performances and the abilities of the proposed project team. Include a key client contact person for the projects listed with their phone number and email address.

D. Budget:
   Provide a Budget that includes all costs associated with the tasks identified in the scope of work. The Budget must identify the costs, including time and materials, associated with each individual task. The Budget shall also include a fully loaded rate sheet for all personnel assigned to the project and a rate for all direct, indirect, and overhead costs. The Contractor may also include a budget narrative (no more than 1 page) if helpful in order to better support the budget.

VI. SELECTION PROCESS

A. Each proposal will be reviewed by an evaluation group to determine if it meets the proposal requirements. Failure to meet the requirements of the Request for Proposals will be cause for rejection of the proposal.

B. The evaluation group may ask for an interview and oral presentation by the selected applicants. The selected firm(s) will then proceed to contract negotiation. The details of the scope and consultant's fee for the project will be developed and negotiated with the selected firm.

C. The prospective applicant(s) is advised that should this Request for Proposal result in award of a contract, the contract will not be in force until it is approved by the CVCC.

D. The consultant(s) will be selected for final negotiation of a contract based upon the following criteria:
   - Description of Qualifications, experience and approach and Scope of Work/Description of Work to be Performed
   - Firm/Project Managers/Staff Qualifications
   - Budget/Hourly Rate/Project Cost

VII. DEADLINE FOR SUBMISSION OF PROPOSALS:

All proposals must be received by CVCC by 5:00 pm, local time, December 4, 2020. Proposals must be submitted by email as a PDF file. PDFs should be compressed as much as possible. Incomplete or late submittals will be rejected. Proposals must be submitted to Kathleen Brundige at kbrundige@cvag.org.

Proof of receipt before the deadline is a time and date receipt on the email. It is the responsibility of the firm replying to this RFP to see that any proposal shall have sufficient time to be received by CVCC.

VIII. INQUIRIES

All inquiries and responses to this RFP should be submitted to:

Kathleen Brundige
Coachella Valley Conservation Commission
73-710 Fred Waring Drive, Suite 200
Palm Desert, CA 92260
(760) 346-1127
kbrundige@cvag.org

Prospective consulting firms are encouraged to promptly notify CVCC of any apparent inconsistencies, problems, or ambiguities in this RFP. Consultants may submit questions via email to kbrundige@cvag.org no later than November 25, 2020. All inquiries shall be made only through this email address. Telephone calls will not be accepted. In addition to the site visit, CVCC may call for a pre-proposal meeting to discuss issues raised If deemed necessary. All notices, clarifications, and addenda to this RFP will be posted on CVMSHCP website at: http://www.CVMSHCP.org. Please monitor the website for all information regarding this RFP. CVCC will not be sending individual notifications of changes or updates. It is the sole responsibility of the prospective consultants to remain appraised of changes to the RFP.

This RFP does not commit CVCC to award a contract or pay any costs associated with the preparation of a proposal. CVCC reserves the right to cancel, in part or in its entirety, this solicitation should this be in the best interest of CVCC. CVCC reserves the right to split or award the contract in any manner determined to be the most advantageous to CVCC.

No proposer, or anyone representing a proposer, is to discuss this RFP with any official or employee of CVCC, other than the person named in this RFP. Neither proposers, nor anyone representing a proposer, is to discuss this RFP with any consultant engaged by CVCC for assistance in preparing the RFP documents or any cost estimate associated with this procurement. Violation of this prohibition may result in disqualification of the consultant even if the contract has already been awarded.

Attachment A: Sample Services Contract

SERVICES CONTRACT

between

COACHELLA VALLEY CONSERVATION COMMISSION (CVCC)
and
XXXX

THIS AGREEMENT is made and effective as of _____, 20__ between the COACHELLA VALLEY CONSERVATION COMMISSION ("CVCC") and XXXX ("Consultant"). In consideration of the mutual covenants and conditions set forth herein, the parties agree as follows:

1. TERM

This Agreement shall commence on _____, 20__ and shall remain and continue in effect until tasks described herein are completed, but in no event later than _____, 20__ unless sooner terminated or extended pursuant to the provisions of this Agreement.

2. SERVICES

Consultant shall perform services consistent with the provisions of the Request for Proposals released on _____, 20__, (the "RFP,") and any modification thereto adopted in writing by the parties and identified herein as an exhibit to this Agreement, upon issuance by CVCC of written authority to proceed (a "Work Order") as to either (a) a portion of the work if separate and independent tasks are contemplated or (b) all work if it constitutes a single project.

Except as amended by the exhibits hereto, Consultant is bound by the contents of the RFP and Consultant's response thereto. In the event of conflict, the requirements of this Agreement, including any exhibits, then the Request for Proposals, shall take precedence over those contained in Consultant's response.

The following exhibit(s), which amend or modify the RFP and/or Consultant's response thereto, are attached and incorporated herein by reference:

Exhibit A: Price Formula

3. PRICE FORMULA

CVCC agrees to pay Consultant at the rates set forth in Exhibit A, the Price Formula.

4. PERFORMANCE

Consultant shall at all times faithfully, competently and to the best of its ability, experience, and talent, perform all tasks required hereunder. Consultant shall employ, at a minimum, generally accepted standards and practices utilized by persons engaged in providing similar services as are required of Consultant hereunder in meeting its obligations under this Agreement.

Consultant shall submit informal progress reports to CVCC's Project Manager by telephone, e-mail or in person, on a weekly basis, in a form acceptable to CVCC, describing the state of work performed. The purpose of the reports is to allow CVCC to determine if the contract objectives and activities are being completed in accordance with the agreed upon schedule, and to afford occasions for airing difficulties or special problems encountered.

The Consultant's Project Manager shall meet with the CVCC Project Manager as needed.

5. PAYMENT

(a) If independent and separate Work Orders are contemplated, CVCC shall pay Consultant upon satisfactory completion of each Work Order; and, unless Consultant provides a performance bond, progress payments will not be made on individual or a collection of Work Orders. If all the work constitutes a single project, Consultant shall submit invoices for work completed on a periodic basis, no more frequently than monthly.

(b) Consultant shall not be compensated for any services rendered in connection with its performance of this Agreement which are in addition to those set forth in a duly issued Work Order.

(c) Consultant shall submit invoices for services performed in accordance with the payment rates and terms set forth in Exhibit A. The invoice shall be in a form approved by CVCC.

(d) A formal report of tasks performed and tasks in process, in a form acceptable to CVCC, shall be attached to each invoice.

(e) All invoices shall be consistent with current progress reports as well as the budget and work schedule set out in the RFP and, if modified or supplemented thereby, the exhibits to this Agreement.

(f) Upon approval by CVCC's Project Manager, payment shall be made within thirty (30) days of receipt of each invoice as to all non-disputed fees. If CVCC disputes any of Consultant's invoiced fees it shall give written notice to Consultant within thirty (30) days of receipt of the invoice.

6. INSPECTION OF WORK

Consultant shall permit CVCC the opportunity to review and inspect the project activities at all reasonable times during the performance period of this Agreement including review and inspection on a daily basis.

7. SCOPE OF WORK CHANGES

The scope of work shall be subject to change by additions, deletions or revisions by CVCC. Consultant shall be advised of any such changes by written notice. Consultant shall promptly perform and strictly comply with each such notice. If Consultant believes that performance of any change would justify modification of the Agreement price or time for performance, Consultant shall comply with the provisions for dispute resolution set out hereinbelow.

8. SUSPENSION OR TERMINATION OF AGREEMENT WITHOUT CAUSE

(a) CVCC may at any time, for any reason, with or without cause, suspend or terminate this Agreement, or any portion hereof, by serving upon Consultant seven (7) days prior written notice. Upon tender of said notice, Consultant shall immediately cease all work under this Agreement, unless further work is authorized by CVCC. If CVCC suspends or terminates a portion of this Agreement, such suspension or termination shall not make void or invalidate the remainder of this Agreement.

(b) In the event this Agreement is terminated pursuant to this Section, CVCC shall pay Consultant only for work that has been accepted by CVCC. Work in process will not be paid unless CVCC agrees in writing to accept the partial work, in which case, prorated fees may be authorized. Upon termination of the Agreement pursuant to this Section, Consultant will submit a final invoice to CVCC. Payment of the final invoice shall be subject to approval by the CVCC Project Manager as set out above.

9. DEFAULT OF CONSULTANT

(a) Consultant's failure to comply with the provisions of this Agreement shall constitute a default. In the event that Consultant is in default for cause under the terms of this Agreement, CVCC shall have no obligation or duty to continue compensating Consultant for any work performed after the date of default and can terminate this Agreement immediately by written notice to Consultant. Provided, however, if such failure by Consultant to make progress in the performance of work hereunder arises out of causes beyond Consultant's control, and without fault or negligence of Consultant, it shall not be considered a default.

(b) As an alternative to notice of immediate termination, the CVCC Executive Director or his/her delegate may cause to be served upon Consultant a written notice of the default. Consultant shall then have ten (10) days after service upon it of said notice in which to cure the default by rendering a satisfactory performance. In the event that Consultant fails to cure its default within such period of time, CVCC shall have the right, notwithstanding any other

provision of this Agreement, to terminate this Agreement without further notice and without prejudice to any other remedy to which it may be entitled at law, in equity or under this Agreement.

10. OWNERSHIP OF DOCUMENTS

(a) Consultant shall maintain complete and accurate records with respect to work performed, costs, expenses, receipts, and other such information that relates to the performance of services under this Agreement. Consultant shall maintain adequate records of services provided in sufficient detail to permit an evaluation of services. All such records shall be maintained in accordance with generally accepted accounting principles and shall be clearly identified and readily accessible. Consultant shall provide free access to the representatives of CVCC or its designees at reasonable times to such books and records; shall give CVCC the right to examine and audit said books and records; shall permit CVCC to make transcripts therefrom as necessary; and shall allow inspection of all work, data, documents, proceedings, and activities related to this Agreement. Such records, together with supporting documents, shall be maintained for a period of three (3) years after receipt of final payment.

(b) Unless the RFP or exhibits hereto expressly provide otherwise, upon completion of, or in the event of termination or suspension of this Agreement, all original documents, designs, drawings, maps, models, computer files, surveys, notes, and other documents prepared in the course of providing the services to be performed pursuant to this Agreement shall become the sole property of CVCC and may be used, reused, or otherwise disposed of by CVCC without the permission of Consultant. With respect to computer files, Consultant shall make available to CVCC, at Consultant's office and upon reasonable written request by CVCC, the necessary computer software and hardware for purposes of accessing, compiling, transferring, and printing computer files.

11. INDEMNIFICATION FOR PROFESSIONAL LIABILITY

To the fullest extent permitted by law, Consultant shall indemnify, protect, defend and hold harmless CVCC, its members and any and all of their officials, employees and agents from and against any and all losses, liabilities, damages, costs and expenses, including attorney’s fees and costs, which arise out of, pertain to, or relate to Consultant's alleged act(s) or failure(s) to act.

12. INSURANCE

(a) Throughout the term of this Agreement, Consultant shall procure and maintain insurance, including Workers' Compensation as required by law for its personnel, and a one million dollar ($1,000,000.00) commercial general liability policy. Consultant shall include CVCC, its member agencies and any other interested and related party designated by CVCC, as additional insureds on this commercial liability policy for liabilities caused by Consultant in its performance of services under this Agreement and shall provide CVCC with a certificate verifying such coverage. In the event said insurance

coverage expires at any time or times during the term of this Agreement, Consultant agrees to provide at least five (5) days notice prior to said expiration date and, prior to said expiration date, a new certificate of insurance evidencing insurance coverage as provided herein for no less than the remainder of the term of the Agreement, or for a total period of not less than one (1) year. New certificates of insurance are subject to the approval of CVCC. In the event Consultant fails to keep in effect at all times insurance coverage as herein provided, CVCC may, in addition to any other remedies it may have, terminate this Agreement.

(b) CVCC, member agencies and any other interested and related party designated by CVCC are to be covered as additional insured as respects liability arising out of automobiles owned, leased, hired or borrowed by Consultant. The coverage shall contain no special limitations on the scope of protection afforded to the said additional insureds. Minimum requirements are $100,000/$300,000/$25,000.

(c) Consultant's insurance coverage shall be primary insurance as respects CVCC, its member agencies, and any other interested and related party designated by CVCC as additional insureds. Any insurance or self-insurance maintained by said additional insureds shall be in excess of Consultant's insurance and shall not contribute with it and, to the extent obtainable, such coverage shall be payable notwithstanding any act of negligence of CVCC, its members, or any other additional insured, that might otherwise result in forfeiture of coverage. Any failure to comply with reporting or other provisions of the policies, including breach of warranties, shall not affect coverage provided to said additional insureds. Consultant's insurance shall apply separately to each insured against whom claim is made or suit is brought. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be suspended, voided, canceled by any party, reduced in coverage or in limits except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to CVCC.

(d) Consultant shall provide worker’s compensation insurance or a California Department of Insurance-approved self-insurance program in an amount and form that meets all applicable Labor Code requirements, covering all persons or entities providing services on behalf of Consultant and all risks to such persons or entities.

(e) Said insurance policy or policies shall be issued by a responsible insurance company with a minimum A. M. Best Rating of “A-“ Financial Category “X”, and authorized and admitted to do business in, and regulated by, the State of California.

(f) Evidence of all insurance coverage shall be provided to CVCC prior to issuance of the first Work Order. Consultant acknowledges and agrees that such insurance is in addition to Consultant's obligation to fully indemnify and hold CVCC, its members and any other additional insureds free and harmless from and against any and all claims arising out of an injury or damage to property or persons caused by the acts or omissions of Consultant.

13. INDEPENDENT CONTRACTOR

(a) Consultant is and shall at all times remain as to CVCC a wholly independent contractor. The personnel performing the services under this Agreement on behalf of Consultant shall at all times be under Consultant's exclusive direction and control. Neither CVCC, its members, nor any of their officers, employees, or agents shall have control over the conduct of Consultant or any of Consultant's officers, employees, or agents, except as set forth in this Agreement. Consultant shall not at any time or in any manner represent that it or any of its officers, employees, or agents are in any manner officers, employees, or agents of CVCC or its members. Consultant shall not incur or have the power to incur any debt, obligation, or liability whatever against CVCC or its members, or bind CVCC or its members in any manner except as expressly authorized by CVCC.

(b) No employee benefits shall be available to Consultant in connection with the performance of this Agreement. Except for the fees paid to Consultant as provided in the Agreement, CVCC shall not pay salaries, wages, or other compensation to Consultant for performing services hereunder. CVCC shall not be liable for compensation or indemnification to Consultant for injury or sickness arising out of performing services hereunder.

14. LEGAL RESPONSIBILITIES

Consultant shall keep itself informed of State, Federal and local laws and regulations which in any manner affect those employed by it or in any way affect the performance of its services pursuant to this Agreement. Consultant shall at all times observe and comply with all such laws and regulations. CVCC, its members, and their officers and employees, shall not be liable at law or in equity for any liability occasioned by failure of Consultant to comply with this Section.

Consultant shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, age, national origin, or any other unlawful basis.

15. UNDUE INFLUENCE

Consultant declares and warrants that no undue influence or pressure was or will be used against or in concert with any officer or employee of CVCC in connection with the award, terms or implementation of this Agreement, including any method of coercion, confidential financial arrangement, or financial inducement. No officer or employee of CVCC will receive compensation, directly or indirectly, from Consultant, or from any officer, employee or agent of Consultant, in connection with the award of this Agreement or any work to be conducted as a result of this Agreement. Violation of this Section shall be a material breach of this Agreement entitling CVCC to any and all remedies at law or in equity.

16. NO BENEFIT TO ARISE TO LOCAL EMPLOYEES

No member, officer, or employee of CVCC, nor its designees or agents, and no public official who exercises authority over or responsibilities with respect to the subject of this Agreement during his/her tenure or for one year thereafter, shall have any interest, direct or indirect, in any agreement or sub-agreement, or the proceeds thereof, for work to be performed in connection with the services performed under this Agreement.

17. RELEASE OF INFORMATION/CONFLICTS OF INTEREST

(a) All information gained by Consultant in performance of this Agreement shall be considered confidential and shall not be released by Consultant without CVCC's prior written authorization. Consultant, its officers, employees, agents, or sub-consultants, shall not without written authorization from the CVCC Task Manager or unless requested by the CVCC Attorney, voluntarily provide declarations, letters of support, testimony at depositions, response to interrogatories, or other information concerning the work performed under this Agreement or relating to any project or property of CVCC. Response to a subpoena or court order shall not be considered "voluntary" provided Consultant gives CVCC notice of such court order or subpoena.

(b) Consultant shall promptly notify CVCC should Consultant, its officers, employees, agents, or sub-consultants be served with any summons, complaint, subpoena, notice of deposition, request for documents, interrogatories, request for admissions, or other discovery request, court order, or subpoena from any person or party regarding this Agreement and the work performed thereunder or with respect to any project or property of CVCC or its members. CVCC retains the right, but has no obligation, to represent Consultant and/or be present at any deposition, hearing, or similar proceeding. Consultant agrees to cooperate fully with CVCC and to provide the opportunity to review any response to discovery requests provided by Consultant. However, CVCC's right to review any such response does not imply or mean the right by CVCC to control, direct, or rewrite said response.

(c) Consultant covenants that neither it nor any officer or principal of Consultant's firm has any interest in, or shall acquire any interest, directly or indirectly, which will conflict in any manner or degree with the performance of services hereunder. Consultant further covenants that in the performance of this Agreement, no person having such interest shall be employed by Consultant as an officer, employee, agent, or subcontractor.

18. NOTICES

Any notices which either party may desire to give to the other party under this Agreement must be in writing and may be given either by (i) personal service, (ii) delivery by a reputable document delivery service, such as but not limited to, Federal Express, which provides a receipt showing date and time of delivery, or (iii) mailing in the United States Mail, certified mail, postage prepaid, return receipt requested, addressed to the address of the party as set forth below or at any other address as that party may later designate by notice:

To CVCC: Executive Director
COACHELLA VALLEY CONSERVATION COMMISSION
73-710 Fred Waring Drive, Suite 200
Palm Desert, CA 92260

To Consultant: XXXX
XXXX
XXXX
XXXX

19. ASSIGNMENT/PERSONNEL

Consultant shall not assign the performance of this Agreement, nor any part thereof, nor any monies due hereunder, without prior written consent of CVCC.

Because of the personal nature of the services to be rendered pursuant to this Agreement, there shall be no change in Consultant's Project Manager or members of the project team without prior written approval by CVCC.

20. MANAGEMENT

CVCC's Executive Director shall represent CVCC in all matters pertaining to the administration of this Agreement, review and approval of all services submitted by Consultant.

During the term of this Agreement, Consultant shall provide sufficient executive and administrative personnel as shall be necessary and required to perform its duties and obligations under the terms hereof.

21. SUBCONTRACTS

Unless expressly permitted in the RFP or the exhibits hereto, Consultant shall obtain the prior written approval of CVCC before subcontracting any services related to this Agreement. CVCC reserves the right to contract directly with any necessary subcontractors in the unlikely event it becomes necessary.

22. LICENSES

At all times during the term of this Agreement, Consultant shall have in full force and effect all licenses required of it by law for the performance of the services described in this Agreement.

23. GOVERNING LAW

CVCC and Consultant understand and agree that the laws of the State of California shall govern the rights, obligations, duties, and liabilities of the parties to this Agreement and also govern the interpretation of this Agreement. Any litigation concerning this Agreement shall take place in the Riverside County Superior Court, Indio Branch.

Any dispute arising under this Agreement shall first be decided by the CVCC Executive Director or designee. Consultant shall give CVCC written notice within seven (7) days after any event which Consultant believes may give rise to a claim for an increase in compensation or a change in the performance schedule. Within fourteen (14) days thereafter, Consultant shall supply CVCC with a statement supporting the claim. CVCC shall not be liable for and Consultant hereby waives any claim or potential claim which Consultant knew or should have known about and which was not reported in accordance with the provisions of this paragraph. Consultant agrees to continue performance of the services during the time any claim is pending. No claim shall be allowed if asserted after final payment.

24. FINAL PAYMENT CERTIFICATION AND RELEASE

CVCC shall not be obligated to make final payment to Consultant until Consultant has fully performed under this Agreement and has provided CVCC written assurances that Consultant has paid in full all outstanding obligations incurred as a result of Consultant's performance hereunder. All obligations owing by CVCC to Consultant shall be deemed satisfied upon Consultant's acceptance of the final payment. Thereafter, no property of CVCC shall be subject to any unsatisfied lien or claim arising out of this Agreement.

25. ENTIRE AGREEMENT

This Agreement contains the entire understanding between the parties relating to the obligations of the parties described in this Agreement. All prior or contemporaneous agreements, understandings, representations, and statements, oral or written, are merged into this Agreement and shall be of no further force or effect. Each party is entering into this Agreement based solely upon the representations set forth herein and upon each party's own independent investigation of any and all facts such party deems material.

26. FORCE MAJEURE

Neither party hereto shall be liable to the other for its failure to perform under this Agreement when such failure is caused by strikes, accidents, acts of God, fire, war, flood, governmental restrictions, or any other cause beyond the control of the party charged with performance; provided that the party so unable to perform shall promptly advise the other party of the extent of its inability to perform. Any suspension of performance by reason of this paragraph shall be limited to the period during which such cause of failure exists.

27. AUTHORITY TO EXECUTE THIS AGREEMENT

The person or persons executing this Agreement on behalf of Consultant warrants and represents that he/she has the authority to execute this Agreement on behalf of Consultant and has the authority to bind Consultant to the performance of its obligations hereunder.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed the day and year first above written.

COACHELLA VALLEY CONSERVATION COMMISSION

By:_____
, Chair

XXXX

_____

Rail Habitat for CVCC at North Shore Ranch

Prepared for
Coachella Valley Conservation Commission
73-710 Fred Waring Drive, Suite 119
Palm Desert, CA 92260

Prepared by
Carla Scheidlinger
Wood Environment & Infrastructure Solutions, Inc.
9210 Sky Park Court Suite 200
San Diego, California 92123

August 2019

Wood Project Number 1955500042

Rail Habitat for CVCC at North Shore Ranch

August 2019

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Acronyms and Abbreviations

AF/acre/year	acre-feet per acre per year
APN	Accessors Parcel Number
ATV	All Terrain Vehicle
CBR	California black rails
CVCC	Coachella Valley Conservation Commission
cfs	cubic feet per second
ET	evapotranspiration
gpm	gallons per minute
in.	inches
Ranch	North Shore Ranch, LLC
YRR	Yuma Ridgway's rail
<	less than

Rail Habitat for CVCC at North Shore Ranch

August 2019

1.0 Overview

The Coachella Valley Conservation Commission (CVCC) has purchased portions of two properties located in eastern Riverside County 1.5 miles south of the town of Mecca, California for the purpose of developing habitat for the Yuma Ridgway's rail (*Rallus obsoletus yumanensis*) (formerly known as the Yuma clapper rail) and the California black rail (*Laterallus jamaicensis coturniculus*). The properties are portions of Accessors Parcel Numbers (APNs) 720-040-009 and 720-040-013 in Section 20 of T7S R9E, formerly owned by North Shore Ranch, LLC (Ranch) that operated the land as shallow ponds managed for waterfowl, fish, and recreation. It is the intention of the CVCC and the prior owner of the Ranch to enjoy some levels of shared use of the ponds, wells, water distribution system, and maintenance staff for the mutual benefit of the Ranch and the CVCC. The location of the properties is shown in Figure 1.

2.0 Description of Land and Water

The CVCC has acquired 137 acres of land, of which 80 acres may be water surface when fully developed as habitat for rails. Preliminary topographic data indicates that there is a total of six feet of fall over the property, in the general direction of northwest to southwest, with the lowest location in the southwest corner of Pond 4 (Figure 2).

There are a total of nine ponds, all of which have been leveled such that the depth in them is fairly uniform. Three of them (Ponds 5, 6, and 7) have subsurface tile drainage installed to depth of five feet, and these drains are still functional. The remaining ponds do not have such drainage.

The ponds currently are managed for waterfowl, and have been planted with species attractive to ducks and geese. Dominant species in the pond bottoms at this time include swamp prickle grass (*Crypsis schoenoides*) and Bermuda grass (*Cynodon dactylon*). Both of these species are non-native but thoroughly naturalized, and would be difficult to eradicate from the ponds. Additional species present where standing water persists are native emergent wetland species such as cattail (*Typha* sp.), American bulrush (*Schoneplectus americanus*), and alkali bulrush (*S. maritima*). Saltgrass (*Distichlis spicata*), a native species, is common on the adjacent berms.

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wood.

★ Project Location

FIGURE 1

Project Location
Rail Habitat for CVCC
at North Shore Ranch
Riverside County, California

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Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

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1 inch = 400 feet
0 200 400 Feet

wood.

FIGURE 2

Pond Locations
Rail Habitat for CVCC
at North Shore Ranch
Riverside County, California

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When the property was developed for waterfowl habitat, it was in a similar state to the adjoining land: highly saline, vegetated mostly with non-native saltcedar (*Tamarix ramosissima*) and native iodinebush (*Allenrolfia occidentalis*). In order to freshen the soils sufficiently to grow the species attractive to waterfowl, extensive leaching was performed, subsurface drainage installed in some areas, and soil modification using gypsum and biosolids was implemented. All the ponds appear at this time to be capable of supporting the kind of emergent aquatic vegetation typical to local freshwater wetlands.

The berms adjacent to and defining the ponds are wide enough to accommodate vehicles, and some of them have been capped with gravel. The berms on the exterior perimeter of the property are heavily vegetated with saltcedar as well as with Australian pine (*Casuarina equisitifolia*), the latter of which was planted.

The water supply for the ponds is from wells, of which there are three on the Ranch property. One of them, that produces 700 gallons per minute (gpm), will be dedicated exclusively to the CVCC land; one of them will remain primarily with the Ranch but could be shared as supply and demand make feasible, and the third one (the "sprinkler well") only supplies the Bass Pond, but could be rehabilitated to benefit the CVCC project with a potential production of 400 gpm. Although the wells have some artesian flow, in order to acquire the volume of water required for the ponds, they have been equipped with pumps.

A schematic of the water flow is shown in Figure 3. The main line from the well at the northwest corner of the parcel is an eight-inch buried line that goes under the roads along the berms and allows for water to be delivered independently by T-connections and valves to each pond. This arrangement of lines and valves allows any individual pond to be isolated for either the exclusive provision of water, or to prevent flow into that pond when other ponds are being flooded. From the northwest corner of Pond 1, where a T connection delivers water to Pond 1, the main line is in the central berm leading to Ponds 2, 3, and 4, with a single outlet to each of those ponds. This main line also provides delivery to Ponds 7, 6, and 5, angling to extend between Ponds 5 and 6 to terminate in the Nesting Pond. The Refuge Pond is currently fed exclusively from the Bass Pond, which is not part of the Project.

An additional feature of the water supply distribution system is a network of drip and sprinkler irrigation lines that are on the surface or buried shallowly on the perimeter berms. These lines are intact and could be used, although they need repair. The sprinklers are spaced 80 feet apart, and are Rainbirds® with a capability of delivering 80 gpm each. These could be used to irrigate native riparian trees, as was done for the Australian pines, or to establish berm stabilizing native vegetation such as saltgrass.

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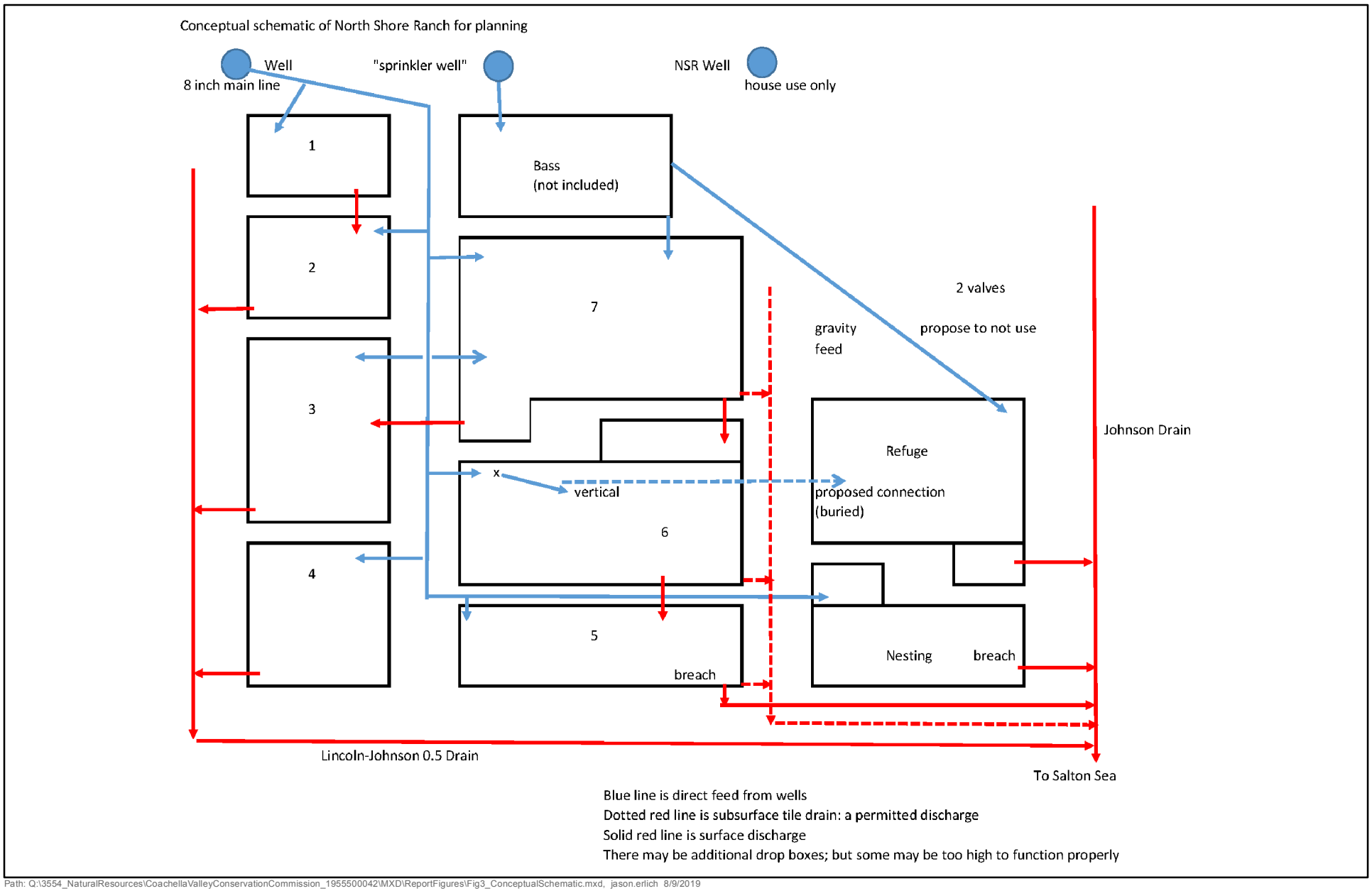

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No Scale

FIGURE 3

Conceptual Schematic
Rail Habitat for CVCC
at North Shore Ranch
Riverside County, California

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3.0 Relationship with Ranch

Although the Ranch has transferred the two parcels to the ownership of the CVCC, there are certain aspects of the water and land management that will overlap between the Ranch and the CVCC. These are discussed in this section.

3.1 Fee Title Lands and Wells to be Held by CVCC

The area outlined in Figure 4 shows the portion of the property purchased by CVCC. It can be seen that there is not complete transfer of APN 720-040-013; that parcel will be divided with a portion of it remaining with the Ranch. The Ranch retains the buildings and one well, in addition to one of the Ponds, known as the Bass Pond. The well farthest west on APN 720-040-013 is for the exclusive use of CVCC; the middle well, the "sprinkler well" is currently partially plugged but could be refurbished for use by CVCC. This well currently feeds the Bass Pond, which discharges to Pond 7 and to the Refuge Pond.

3.2 Expectations for Dual Use

The Ranch expects to retain a crew of experienced maintenance and management staff to be employed by the Ranch as well as by CVCC. This offers CVCC the opportunity to have on-site, experienced people managing water flow and vegetation development. A written agreement between the Ranch and CVCC will detail this agreement and describe how effort and costs will be shared.

In addition, the Ranch wishes to maintain control over water management in at least the Refuge Pond (Section 5.8), so that they can continue using that pond as a haven for waterfowl. Details regarding the water and vegetation management will need to be developed, as waterfowl and rails have different habitat requirements. With some grading, and some specifications for seasonal water management and vegetation structure, such a shared scenario could be possible. Specifically, some areas would need to be maintained with a maximum depth of 12 inches (in.) during the rail breeding season (March through June) and cover of cattails and other emergent aquatics developed sufficiently to provide cover for nesting. During the remainder of the year, the rails could migrate to the other ponds, and the Refuge Pond could be managed for deeper depths for waterfowl (such as during the winter months) and could be drained and maintained free such that the deeper areas were free of vegetation during the winter months (October – February). Under such a management strategy, it could be possible for the Refuge Pond to support both waterfowl and rails. In addition, the Ranch does not want to attempt to eliminate swamp timothy, as it is a valuable forage plant for waterfowl. Eradicating Bermuda grass, including with the use of chemicals, would not be a problem for the Ranch.

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wood.

FIGURE 4
Land Ownership
Rail Habitat for CVCC
at North Shore Ranch
Riverside County, California

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4.0 Descriptions of Habitats to be Developed

There are two primary and one secondary habitat types to be developed by the CVCC project. The primary habitats are for Yuma Ridgway's rail and California black rail. Both of these species would be accommodated in the existing pond system. The secondary habitat is riparian; this would be developed on the perimeter berms and potentially on existing or constructed islands. Riparian vegetation could also be developed on the interior berms, but such vegetation could impair the ability to use the berm roads for operation and maintenance activities.

4.1 Yuma Ridgway's Rail

Yuma Ridgway's rail (YRR) prefer the tallest, densest cattail and bulrush marshes found in the Arizona and Salton Sea areas (Rosenberg et al. 1991). During nesting season, they are highly territorial, and the territories appear to be distributed along a zone where standing water gives way to saturated soil within a marsh. The interface between water, soil and vegetation seems far more important than the specific plant species that cover a site. As soon as ground surface of marsh dries out, clapper rails move elsewhere, so consistency in water level is very important. Plants that typify suitable habitat include cattail (*Typha domingensis*), as well as California (giant) bulrush (*Schoenoplectus californicus*). California bulrush produces a mat of recumbent stems that clapper rails use as long as it is not too thick. Common reed (*Phragmites australis*) marshes are mainly inhabited by YRR where it is bordered or mixed with cattail. Salt cedar (*Tamarix ramosissima*), as a minor associate of cattail, may form part of the cover used by territorial YRR in some areas. In winter, most YRR are found in heavily overgrown, relatively narrow, wet sloughs and backwaters, which have varied vegetation cover of mature and decadent herbaceous and woody vegetation. Eddleman (1989) reported that micro-habitats during the breeding season include sites with <12 in. of water, vegetation that is optimally >16 in. tall, and marshes with an interface between upland and marsh habitats, or with higher sites within marsh. Stable water levels are important during nesting. A mosaic of variable-aged stands of emergent vegetation interspersed with shallow open-water pools, are necessary for year-round clapper rail habitat (Conway et al. 1993). Overall, then, the presence of dense vegetation at least 16 in. tall on wet sites with water depths of <12 in., low vegetated hummocks or rises above water adjacent to or within marsh or swamp are important habitat requirements for YRR.

YRR nests are usually built in dense vegetation near the water's edge or, if available, on small high sites within a marsh. They commonly nest along channels where banks are slightly higher than adjacent marsh areas. Such nests are often placed beneath woody shrubs or small trees or in clumped herbaceous growth. Nests elevated over vegetation or soil have runways leading

into them that rails habitually use. Nests consists of dry sedges and grasses, are 18.0-24.0 in. tall, 7.0-10.0 in. across, are well cupped and 8.0-12.0 in. above mud (Terres 1980).

Fundamental criteria of standards for YRR habitat should include an adequate food base. YRR prefer crustaceans including amphipods, but also take fish, frogs, clams, spiders, grasshoppers, crickets, dragonflies, aquatic plant seeds, and bird eggs, etc. YRR forage while walking on prevailing substrate, including mud flats, sandbars, recumbent stems of marsh plants, and between stems of marsh plants, etc. (Todd 1986).

4.2 California Black Rail

California black rails (CBR) use marsh habitat that is shallow and/or close to upland vegetation during the post-breeding season, possibly because broods cannot use areas with water >2 in. deep. Birds evaluated by Flores and Eddleman (1995) found that CBR used areas that were closer to vegetation-type edges, were drier, and had shorter vegetation compared with total available habitat. Habitat structure was more effective than plant composition in predicting California black rail use of habitat. Because California black rails may not use areas within wetlands where deep water occurs, they recommend that fluctuations in water level be minimized in wetlands managed for CBR, especially during the nesting season. CBR habitat is characterized by marshes with a shallow, stable water level, gently sloping shorelines, and vegetation dominated by bulrushes (*Schoenoplectus* [formerly *Scirpus*] spp.) or grasses. CBR are also found to use areas with southern cattail but only those with shallow water depths (Flores and Eddleman 1995, and BOR 2008). California black rails are also associated with plants of the upland/wetland interface, such as seep willow (*Baccharis glutinosa*), arrowweed (*Pluchea sericea*), saltgrass, and cottonwood (*Populus fremontii*) (Conway et al. 2002).

The nest is a well-defined bowl, with a canopy of dead or living vegetation woven over the top and a ramp of dead vegetation leading from the substrate to an entrance on the side of the nest (Harlow 1913, Flores and Eddleman 1991). The primary nesting material is southern cattail or a variety of rushes. The nests are elevated above the mud substrate in clumps of vegetation: and range in dimensions from 5-6 in diameter, and 1-3 in in bowl depth, and are typically located 1-4 inches above the substrate in areas where water depth does not exceed 1.5 in.

CBR rely on small aquatic and terrestrial invertebrates of less than 0.5 in and on seeds as their main food items (Eddleman et al. 1994). They may consume various kinds of beetles, earwigs, and the seeds of bulrushes and cattails during the breeding season. In late summer and autumn, their diet included grasshoppers, beetles, ants, earwigs, spiders, snails, bulrush seeds, and insects. During winter, they eat mostly bulrush seeds.

Overall, then, CBR habitat consists of very shallow water, dense stem populations of species with flexible stems, and areas adjacent to marshes that provide foraging habitat into drier areas that have shorter vegetation

4.3 Riparian Habitat

Riparian habitat is a secondary goal of this project, and it will be developed adjacent to the rail habitat areas on berms, islands, or other higher elevation areas within the project area. There are no serious obstacles for the development of such riparian habitat, although it will be important to assure that the irrigation system is repaired, or that irrigation can be accomplished using water trailers for the first several years of establishment.

5.0 Pond Descriptions

What follows are descriptions of the existing ponds and the condition they were in at the time of site visits in May and June 2019, supplemented with discussions with the Ranch owner. The area estimates are from Google Earth, and should be confirmed by survey. Recommendations for the use of each pond are considered in the following section.

5.1 Pond 1

This is a shallow pond, of about 5.8 acres, heavily covered with swamp timothy, a non-native species which has naturalized in California. This species was planted by the Ranch as attractive forage for waterfowl. Pond 1 is supplied with water from a single inlet from the main line. It drains through a drop box to Pond 2.

5.2 Pond 2

This is a somewhat deeper pond of about 5.3 acres, but was dry at the time of the site visits. It is said to be deeper than Pond 7. It is supplied from water directly from the main line as well as from a dropbox that delivers water from Pond 1. It drains through a dropbox to the Lincoln-Johnson 0.5 Drain.

5.3 Pond 3

Pond 3 is a 7.1 acre pond that is fed directly from the main line at a single delivery point. It drains through a drop box to the Lincoln-Johnson 0.5 Drain, and can also deliver water into Pond 4 at the south end. It is shallow and flat, with the pond floor covered with swamp timothy and Bermuda grass at the time of the site visits.

5.4 Pond 4

Pond 4 is about 5.8 acres in size, with an island of about 0.75 acre. The pond can be flooded only directly from the main line. It is deep, but could be benched, especially around the island, to create depths that could accommodate both YRR and CBR. It is currently managed for depths of about 4 – 6 inches. The island is very high above the water line, and has mesquite and quailbush growing on it. The edges are very eroded on the south side from wave action. This pond drains through a dropbox to the Lincoln-Johnson 0.5 Drain.

5.5 Pond 5

This shallow pond covers about 4.9 acres, and has a maximum depth of about 4 – 6 inches. It can be flooded from the main line, or from Pond 6, which could be a preferable method of water delivery. This pond has subsurface tile drains that presumably affect its ability to pond water. The tile drains discharge subsurface to the Johnson Drain. The surface discharge is through a drop box into a shallow, narrow ditch that connects to the Johnson Drain. There is a breach in the berm around the drop box that if not repaired would limit the maximum depth in this pond to about 2 inches.

5.6 Pond 6

Pond 6 is the largest pond in the complex, at about 12.3 acres. There is a dense growth of Bermuda grass and swamp timothy, as well as sedges and rushes, over the floor of the pond. This pond can be flooded either from delivery directly from the main line into the northwest corner, or by way of a vertical pipe that connects with a valve to the supply line within the pond and can deliver water directly to the middle of the pond. This is a deep pond, at a maximum possible depth of 3 – 4 feet. Pond 6 drains through a dropbox into Pond 5, which is thought to be a preferable way of supplying Pond 5 rather than directly from the main line. There is no discharge to an external drain except from the subsurface tile drainage system, which goes to the Johnson Drain. The basin floor has rocked tracks that converge on a small island in the center that has sprinklers which are currently not in use. The Ranch would like to develop a buried pipeline from the vertical pipe to the Refuge Pond, but this has not yet been accomplished.

5.7 Pond 7

Pond 7 is the next largest pond, with an area of about 10.2 acres. At the time of the site visit, it contained water. It can be flooded either directly from two delivery points from the same main

line that supplies the other ponds, or from the Bass Pond that is maintained for the use of the Ranch. Water delivered from the Bass Pond would need to be accounted for, as that water is owned by the Ranch, being currently supplied from the sprinkler well. The vegetation in the basin is mostly Bermuda grass, which would be very difficult to eradicate, but provides suitable forage for waterfowl as well as for CBR. This pond has subsurface tile drainage that discharges to the Johnson Drain, and surface water drains to both Ponds 3 and 6 through drop boxes.

5.8 Refuge Pond

The Refuge Pond is about 3.7 acres in size, and has been managed as a pond strictly for habitat; shooting is not done in this pond. It receives water at a single point from the Bass Pond, which is not on the property proposed to be acquired by CVCC. The pond drains to Johnson Drain through a ditch that is fed from a drop box. It is expected that this pond would remain under the control of the Ranch which will continue to manage it as a refuge for waterfowl, as it is up to 4 feet deep at the west end. To the extent that YRR habitat can be developed here successfully, this pond could serve a dual purpose.

5.9 Nesting Pond

This 7.2 acre pond is generally shallow, and is probably good for development into habitat for rails. It is at the end of the main line supplied from the NE well and is flooded from a single point at the end of that line. It drains to Johnson Drain through a surface channel, but there is a breach in the berm that would require repair if standing water is to be maintained in the pond. At this time, there is a great deal of saltcedar growing in the pond basin that would have to be treated and eliminated. A water depth of at least 6 inches would need to be maintained for long enough to kill off the saltcedar seedlings.

6.0 Opportunities and Constraints for Each Habitat

6.1 General Requirements

All Ponds except Ponds 1, 4, and the Nesting Pond have a more than 1 point of water delivery, including water received from adjacent ponds. With the exception of Pond 7, they all have a single point of water discharge. Given that water circulation is important to maintain water quality in each pond, having multiple points of water inflow and outflow is preferred. For inflow, the current configuration of Pond 6 can have water inflow directed either from the main line under the north berm, or to the vertical pipe in the interior of the pond. Such a secondary delivery location into the interior of a pond is acceptable but not necessary. A more cost-

effective strategy would be to create multiple turnouts from the main line supporting each pond. This arrangement allows for developing water depth quickly in several locations.

In addition, having multiple outlets would be important as well. One option is to increase the ability to cascade water from one pond to another, as is currently possible between most ponds but from a single location. This strategy creates additional flow options for both inflow and outfall. Multiple discharge points that allow for discharge directly to a drain in the event of poor water quality that should not be used in another pond, as well as for cascading into the next pond if water quality remains good, allows for flexibility in operations that is highly beneficial to habitat management.

Water quality is important for any marsh area, and it is unrealistic to expect that the monthly water requirement would be simply the amount needed to balance evaporation and seepage. Rather, that volume is the MINIMUM amount required. A certain amount of flow-through will be required, such that the residency time in any given pond is brief enough such that water quality does not become impaired. The Ranch reports that outbreaks of a bacterial infection known *as Riemerella anatipestifer*, or "new duck disease" have been found in this area, although water quality is not known to be a factor in spreading this disease, and it is not known from birds other than waterfowl or domestic fowl.

There are two rail habitat creation projects in the area, a 17-acre Created Marsh at the Dos Palmas ACEC about 8 miles to the southeast of the Ranch, and the Imperial Irrigation district's manage marsh, 4 miles south of Niland. At both marshes, water delivery consistently allows for discharge. These marshes have two-three inlet locations per cell, at least one of which is for new rather than cascaded water. Each cell also has 3 outlet locations; at the Created Marsh, all are cascaded, although the Managed Marsh has the option for direct discharge to drains. The target water use at the IID marsh is about 10 acre-feet per acre per year (AF/ac/year). Actual water delivery at the Created Marsh was 9.9 AF/ac/yr. Data from the created marsh project indicates that an average of 30 percent of the delivered water is discharged from the surface during summer months, and about 60 percent of delivered water is discharged from the surface during winter months. The remainder of the delivered water is consumed by evapotranspiration (ET) or removed by seepage. Overall, the amount of water delivered and discharged either from the surface, from ET, or from seepage balances each month, with the proportion of delivered water that flows *through* the marsh being greater during the winter months. Based on the Dos Palmas marsh, with calculations for correction of acres from 17 to the 80 proposed for this site, the maximum delivery rate in summer would be about 670 gpm, with about 32 percent of that discharged from the surface.

We note that these discharge requirements are probably high; we only know that they were sufficient to preserve good water quality in the Dos Palmas site, which is also provided with well water rather than canal or drain water. Smaller amounts of water may be sufficient; but any future restoration plan should endeavor to set water quality parameters that can be maintained through discharge management. The marshes managed for YRR at the Sonny Bono National Wildlife Refuge at the southern end of the Salton Sea do not have any water quality parameters measured when managing rail habitat. They maintain sufficient outflow to avoid stagnation and salt accumulation from the Colorado River water that supplies the marshes. When planning water use, they target 12 AF/acre/year as an estimate, as provided for in their Comprehensive Conservation Plan. Outflow is not measured, but the managers propose 0.25 cubic feet per second (cfs) (112 gpm) as sufficient as a target for 20-25 acre ponds, with more outflow for larger ponds. Managers there report that the marshes do well as long as there are no prolonged periods with no outflow. (Tom Anderson, pers. comm. July 9, 2019). Corrected for acreage, this is a higher discharge rate than was observed from the created marsh, but river water is not as clean as well water and would accumulate higher concentrations of potentially harmful constituents.

A conceptual schematic is presented in Figure 5 to show possible water circulation strategies.

The tile drains in ponds 5, 6, and 7 drain through subsurface pipes to the Johnson Drain. This is a permitted drainage discharge, allowed and regulated by Coachella Valley Water District. It can be assumed that water loss through the drains under these ponds is greater than that under the other ponds not equipped with tile drains.

The ability to access all water delivery and discharge points using a vehicle is important. The current structure of the existing berms is sufficient for this when using low ground pressure vehicles such as the John Deere Gators ®. If passage by a pickup truck is desired or required, some work to the berms may be necessary to increase both width and compaction.

6.2 Yuma Ridgway's Rail

This species requires deeper water, up to 12 in., and could best be accommodated in the current configuration of Ponds 4, 5, 6, and the Nesting Pond. All of these ponds can apparently be filled to a depth of at least 12 inches, although the Nesting Pond requires some work on the berm that would allow the water level to be raised to a full 12 inches. There are portions of the berms on all of these ponds that may require repair prior to re-flooding to this depth.

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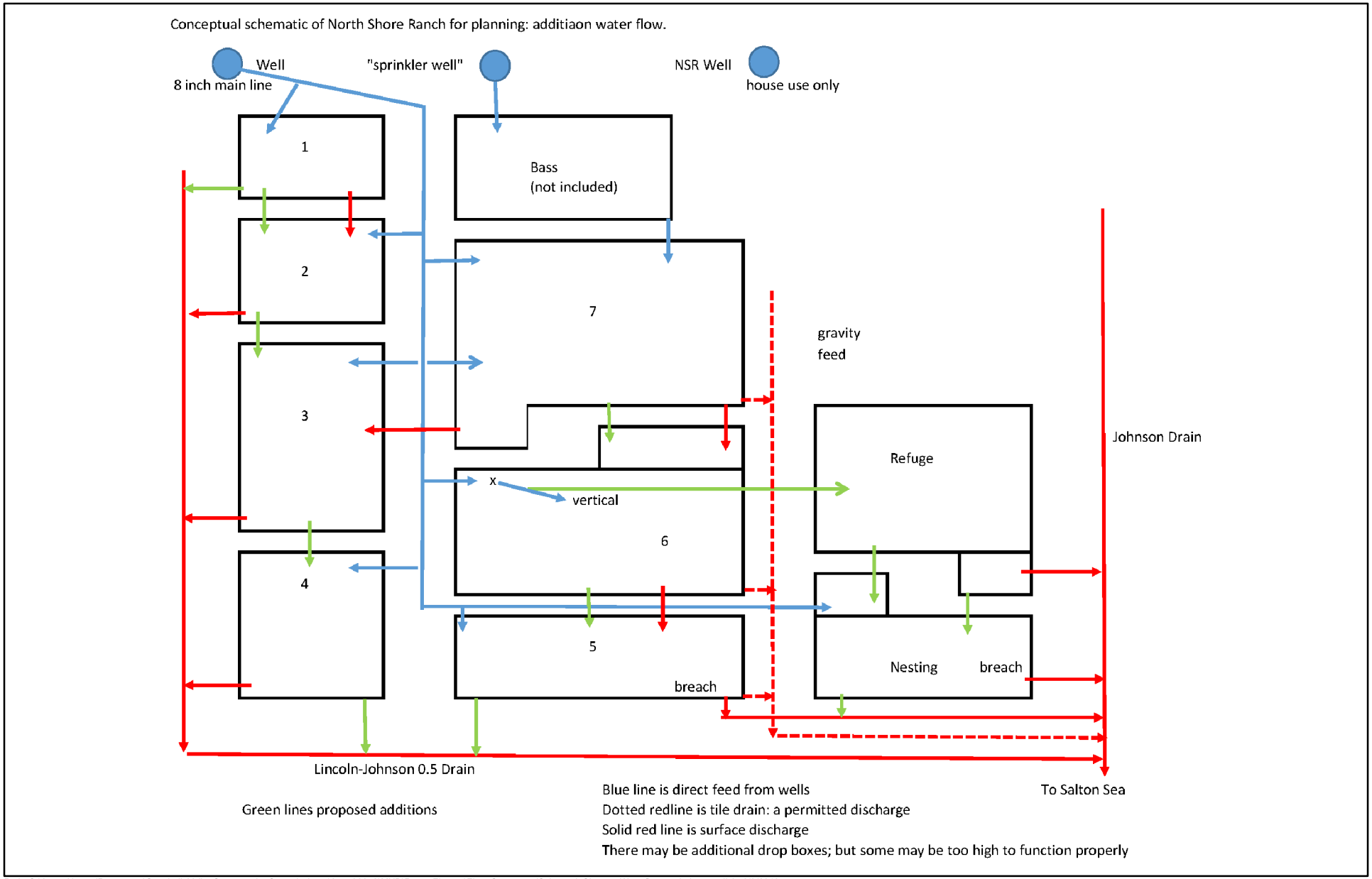

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No Scale

FIGURE 5

Conceptual Schematic for Proposed Changes to Waterflow
Rail Habitat for CVCC
at North Shore Ranch
Riverside County, California

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Simply flooding these ponds to the depth required would create habitat that could be colonized by "volunteer" vegetation from the surrounding area. A more reliable strategy would be to introduce vegetation into the area using seeds, container plants, or harvested material. The most important species would be cattail, and various species of bulrushes found in the area such as American bulrush and alkali bulrush. It is usually unnecessary to introduce cattails, as their seeds arrive readily from nearby habitats. Diversity could be increased by seeding additional species such as tule or hardstem bulrush (*Schoenoplectus acutus*). California bulrush, big bulrush (*S. robustus*), and spiny rush (*Juncus acutus*; or the closely related Cooper's rush, *J. cooperi*, which is found in the Salton Sea area). All of these species were used in the Imperial Irrigation District Managed Marsh and/or the Dos Palmas Created Marsh, both of which were developed for the benefit of rails. Broadcast introduction of prilled (coated) seed is an effective way of assuring good distribution of the seeds in the marsh areas, as the coasted seeds will remain on the pond bottom after flooding instead of floating to the closest leeward shore.

In addition, saltgrass could be seeded or installed from harvested material along the pond margins to stabilize the berms.

6.3 California Black rail

The CBR requires Much shallower water than the YRR, and so entire ponds would have to be managed for shallower water (< 2 in.), or grading would be required to produce shallower areas or benches inside deeper ponds. Ponds 1, 3, 5, and the Nesting Pond are currently at least partly shallow, and could be developed for CBR habitat with minimal intervention. Alternatively, benches such as already exist in rudimentary form in Pond 4 could be developed. The Pond 4 benches would require considerable modification to make the slopes far shallower so that CBR could successfully traverse them from the edges to the deeper areas. Grading would be possible in Pond 5 to make some areas more shallow. Throughout, some additional drop structures, or modifications to existing drop structures, may be needed to allow for better water control in smaller depth increments to accommodate CBR.

The plant species already present in the ponds such as swamp timothy and Bermuda grass are probably suitable as forage material and foraging habitat for CBR as long as they are maintained in a saturated or shallow water condition. These species, are not native, however. Although it might not be possible to eradicate them, additional species that could be introduced include saltgrass and Cooper's rush. As Cooper's rush would be introduced as small container plants due to poor germination and survivability of seedlings, this species would be able to be established along with the existing grasses. Over time, it is possible that saltgrass could be made to take over from the current non-native grasses.

7.0 Riparian Habitat

Riparian habitat is a secondary goal of this project. It is expected that at this location, riparian habitat would be established on the berms adjacent to the ponds. This report does not discuss alternative riparian development sites on other portions of the proposed CVCC property.

The first task would be to eradicate non-native species, especially salt cedar. It is our understanding that the Australian pine was planted and has become naturalized. CVCC may elect to maintain these trees, although they could be managed in the same manner as the salt cedar. Management would consist of cutting down existing trees, and painting the stumps with an herbicide such as glyphosate, which is absorbed into the roots and thereby kills the trees. Stump painting must be performed immediately after cutting to be effective. Follow-up is often required, using a foliar herbicide application to kill any sprouts that may come from the cut stump.

The irrigation system would also need to be repaired, with the ability to deliver water directly to installed native trees. If repair of this system appears to be too difficult or expensive, water could be delivered to installed native trees using a water wagon. This option assumes that the berm roads are upgraded such that a vehicle towing a water tank could be accommodated.

The species that would be introduced could either be desert riparian species, such as mesquite (*Prosopis* spp.), ironwood (*Olneya tesota*), and palo verde (*Parkinsonia florida*); or cottonwood and willow (*Salix* spp.), depending on habitat requirements. The soil on the berms would need to be evaluated for salt content, as cottonwood and willow are more salt-sensitive than the desert riparian species. Trees could be installed as either one-gallon or five-gallon container plants, ideally grown from seed collected in the general area of North Shore. Species already present that provide habitat value include arrowweed.

8.0 Habitat Development Strategies

8.1 General

1. Pond vegetation management at outset. Non-native vegetation would be removed, and treated to prevent its return. Non-native emergent aquatic or forage species could be left, depending on the requirements of the project. The grass species may be very difficult to eradicate.

2. Pond berm and drop structure repairs and modifications to assure pond depth. No new water should be introduced into the ponds until berm and drop structure repairs have

been made. The drop structures should be developed such that they can be controlled in small increments of depth, such as several inches. They should be installed such that water will not erode around them. Berms should be made wide enough and well enough compacted on the surface to accommodate at least side-by-side ATVs, and preferably pick-up trucks.

3. New water delivery and discharge structures. Construct additional turn-outs from the existing water delivery system to assure that each pond can be supplied from at least two locations. Construct discharge structures that allow for cascading from at least two locations in each pond. Discharge to the drains should be maintained as well so that water quality can be managed.

4. Introduction of suitable vegetation, including for berms. Berms should be stabilized with vegetation rather than riprap. Saltgrass is a very good berm stabilization species, and it is native. It can be introduced as seed, or as stems with rhizome material attached. Irrigation of seed areas would be important; stems or rhizomes can be planted at a waterline. Other marsh species can be introduced by seed, container plants, or stems/rhizomes collected locally.

5. Vegetation management plan. Even with good water management, habitat characteristics change over time. Rail habitat in particular can become overly dense, and can develop a thatch that is detrimental to foraging by rails. Burning is a standard tool for management of both stem density and thatch. Burning is typically not done annually; and it is best not to burn the entire habitat at one time. A vegetation management strategy should be developed that plans for a rotation in management that would allow for most of the habitat to remain functional why some of it is burned or otherwise managed. For example, in a burn plan rotation, Pond 6 could be done first, as it is large; the remaining ponds would be unaffected, but would be burned in rotation as Pond 6 is recovering.

6. Calendar of use and management. If shared use of the ponds with the Ranch is agreed to, the wetting and drying of ponds in cycles could also be part of the management. In that case, cyclical control of emergent aquatics species such that open water is maximized in some years may result in a reduction of rail habitat in ponds managed in that fashion. These issues should be addressed up front as the property transfers are taking place.

7. Consider using Pond 5 as a first demonstration project of the habitat development for both species, to explore ways of grading for different habitats, maintaining water depths, water duration (residency time), and stability of depths.

8.2 Habitat for YRR Ridgway's Rail

1. Water depth management. The water discharge structures discussed in Section 8.1.2 must be such that water depth can be managed in small increments of several inches and no deeper than 12 in. In addition, it may be desirable to grade some ponds to assure that there is transitional habitat between deep water and upland areas. Any steep pond margins could be softened, and benches installed to assure transitional water depths.

2. Vegetation introduction. This would be done according to the strategies in Section 8.1.4.

3. Vegetation management. This would be done in accordance with the strategies in Section 8.1.5. Control of non-native species such a salt cedar is facilitated by maintaining constant water depths even when breeding rails are not present. "Bouncing" water levels produces a wetted ring of soil that encourages germination by salt cedar unless such marginal areas are well-armored with native grasses such as salt grass.

8.3 Habitat for California Black Rail

1. Pond grading to assure shallow depths (< 2 in.) in ponds not exclusively for this species. Unless specific ponds are designed exclusively as habitat for CBR, deeper ponds must be graded to allow for shallower water in some areas of them. Gentle slopes between shallow water and upland areas should be provided so that the CBR can forage in adjacent transitional upland habitat.

2. Control for pond depth. Maximum depth for CBR is much shallower than for YRR. Water discharge structures must allow for fine control of depth, in increments of 1-2 inches.

3. Vegetation introduction and management. Vegetation that is too tall or too dense will not be suitable for CBR. Low vegetation including species such as saltgrass and Coopers rush should be established and maintained.

4. Calendar of use and management

8.4 Riparian Habitat

1. Plan and implement vegetation control for saltcedar and any other invasive species; include appropriate follow-up. This is described in Section 7.0.

2. Repair irrigation system on the berms. Alternatively, determine to irrigation installed container plants using a water trailer. In some cases, trees may be planted near the edge of the water, as long as there is sufficient stability in water depth to allow such plants to establish without irrigation.

3. Develop a planting plan for native riparian species. Determine the type(s) of riparian habitat that is desired in the immediate vicinity of the ponds, and develop a planting plan to create such habitat.

4. Plant in a method suitable to take advantage of the irrigation structure.

9.0 Conclusions and Next Steps

1. Evaluate water supply and memorialize water availability from North Shore Ranch, including available wells and delivery schedules. Develop conceptual costs for pumping the water.

2. Draft a habitat development plan for all habitat types using the above strategy considerations. Include maintenance, monitoring, and adaptive management chapters. Attach conceptual costs to all activities.

3. Memorialize a year-round site management plan that meets the needs of North Shore Ranch and the CVCC. Clarity regarding water depth and vegetation management seasonally are especially important in assuring what management strategies can be utilized that will not adversely affect rail residents and breeding pairs.

4. Develop all conceptual costs for implementation of the plans, and memorialize cost-share with the North Shore Ranch.

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